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ABSTRACT

A total of 33 papers are collected for dissemination to other sociologists and graduate/undergraduate students, and represent the broad thrusts southern sociology brings to bear on rural and agricultural problems. The seven sessions are entitled: The Sociology of Agriculture (three papers); The Sociology of Communities (six papers); Social Change (seven papers); Rural Crime (five papers); Demographic Changes (five papers); Education, Aspirations, and Employment (four papers); and Land and Farm Resources (three papers). The papers in the Education section include: The Effects of Two Generations of Status Attainments on Educational Aspirations for Offsprings; Completing College and the Quality of Employment--A Look at the Costs of Dropping Out; A Comparative Analysis of Job Satisfaction Among Ecologically-Oriented Occupational Groups; and Present and Future Supply and Demand of Home Economics Instructors in Higher Education. The final portion of the document contains the minutes of the 1982 business meeting, a copy of the program of the Rural Sociology Section of the 79th Annual Convention of the Southern Association of Agricultural Scientists, a directory of participants and attenders of the 1982 meeting, operations procedures for the Rural Sociology Section, and a brief history of the Rural Sociology Section prepared by C. L. Cleland. (BRR)

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RURAL SOCIOLOGY IN THE SOUTH: 1982



Rural Sociology Section

Southern Association of Agricultural Scientists

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RURAL SOCIOLOGY IN THE SOUTH: 1982

Proceedings
of the
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of the
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(SAAS)

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in
Orlando, Florida
February 7-10, 1982

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PREFACE

This edition of RURAL SOCIOLOGY IN THE SOUTH is designed to show the major thrusts southern sociology is bringing to bear on rural and agricultural problems. These emphases reveal the nature of the 1982 SAAS-Rural Sociology Section itself. The framework for these topics was not planned in advance for the program. Rather, the papers submitted for the program just seemed to fall readily into several major categories and subcategories as shown in the Index. The major topics are the sociology of agriculture, the sociology of communities, social change, social demography, the social problem of rural crime, human resources, and natural resources.

These topics are analyzed by sociologists who do agricultural and related research through the region's Land Grant University system. Other sociologists, and often the researchers themselves, apply these findings through extension programs that serve the states and the region as a whole. Of course, many who discover the knowledge in research and/or apply it through extension programs also distribute such information to the undergraduate and graduate students of their universities. This system for the creation and distribution of knowledge is not a new one and, hopefully, it will continue to address problems of concern to those who are directly engaged in agriculture as well as for those who are directly dependent upon it. Indeed, no one is indirectly dependent upon the agricultural process of food and fiber production since food, clothing, and shelter are personally vital to everyone. So too must be the sociology that attempts to understand the human and social dimensions of the agricultural process.

The works which follow are some of those presented at the 1982 meeting. Authors who wished to have their papers included in the Proceedings forwarded copies to be compiled and bound. The scope, approaches, and substance of the manuscripts is more varied than their type fonts. Please note that the annual meeting program, found on pp. 369-371, contains references to other items which are not in these proceedings but which may be obtained from the authors.

Since the multiple copies of the papers assembled for the Proceedings were prepared by the respective authors, no editorial efforts were made to modify them. This follows the custom of this series of annual volumes. A corollary custom is that page numbers

cannot be determined a priori. Therefore, any page numbers on the manuscripts themselves are those assigned by the authors. For the convenience to the readers, however, the Table of Contents and various section headings provide reference points for sequential pagination.

We hope these Proceedings will be resourceful for the information needs you may have.

Ron W.
Raleigh, NC

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Changing Profile In The Texas Agricultural
Sector: Social and Economic Implications

By

Karen P. Thomas and Alfred L. Parks*

INTRODUCTION

Economic activity within the state of Texas ranges from small, individually owned and operated farm businesses to industrial and manufacturing establishments that are among the largest in the nation. Presently several of Texas cities and semi-rural communities are becoming urban and industrial areas which has had some influence on farm families and operators.

Farming has been a leading source of income for counties in the past. Today there has been a sharp decline from the more than 254 counties in Texas dependant on farm income in 1950. More recently southern rural areas are becoming industrialized which is providing more opportunities for employment. Therefore, industrial and service employment are enabling more people to combine farming with nonfarm jobs or move off the farm into nonfarm jobs. If this is a continuing trend, policy issues in these regional areas my center on whether government programs should attempt to preserve the opportunity for a life style which many people seem to prefer: combing part-time farming with fulltime employment (Brown.

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Past trends of the declining farm population has not changed, although Texas has played a large part in contributing to the economy. Agricultural productivity in Texas has increased by more than 50% since 1950 while farm and ranch marketing have increased about five times.

The estimated economic impact of agricultural production and agribusiness activities in the Texas economy is more than 33.7 billion per year; 1.3 times the value added by all manufacturing in Texas. In addition, Texas is the number one producer of cattle and calves, cotton and sorghum. Also Texas ranks among the top ten states in production of 16 of the nation's top 25 commodities.

The objectives of this paper is to analyze structural changes in the Texas agricultural sector:

Specific objectives are to:

1. analyze the changes in counties dependant on farming.
2. analyze off farm employment of farm operators.
3. discuss the changes in farm size, and land in farms.
4. analyze market value of Agricultural products sold.

Agricultural Counties Dependant on Farming

Farming once dominated the country, but now that is changing as Agriculture is loosing its place as the number one industry.....this may imply that values will be different as the agrarian dominated way of life gives way to the industrial way of life.

The number of agricultural counties in the United States dropped sharply from 2,016 in 1950 to 684 in the midseventies. These counties which receive at least 20 percent of their total labor and proprietors income from farming, contained approximately 23 percent of U. S. population in 1950. By the midseventies the percentage had fallen to only 3.8.

The total number of people living in agricultural counties decreased from 34.8 million in 1950 to 8.2 million in 1977. Most counties in Texas that were consistently agricultural have made some dramatic changes. Agricultural countries in Texas declined between two time periods 1969-1971 (figures 1 and 2).

In most rural counties before World War II, farming and related industries were the primary sources of income and employment. However, technical changes in agricultural production resulted in a massive release of people from farming. Recent nonfarm employment growth in non-metropolitan areas significantly changed the complexion of rural communities and agriculture is no longer the primary sector shaping rural people's future.

Off-Farm Employment

The shift toward more off farm work by farm families is one of the most dramatic changes taking place in U. S. Agriculture. According to the

TEXAS COUNTIES

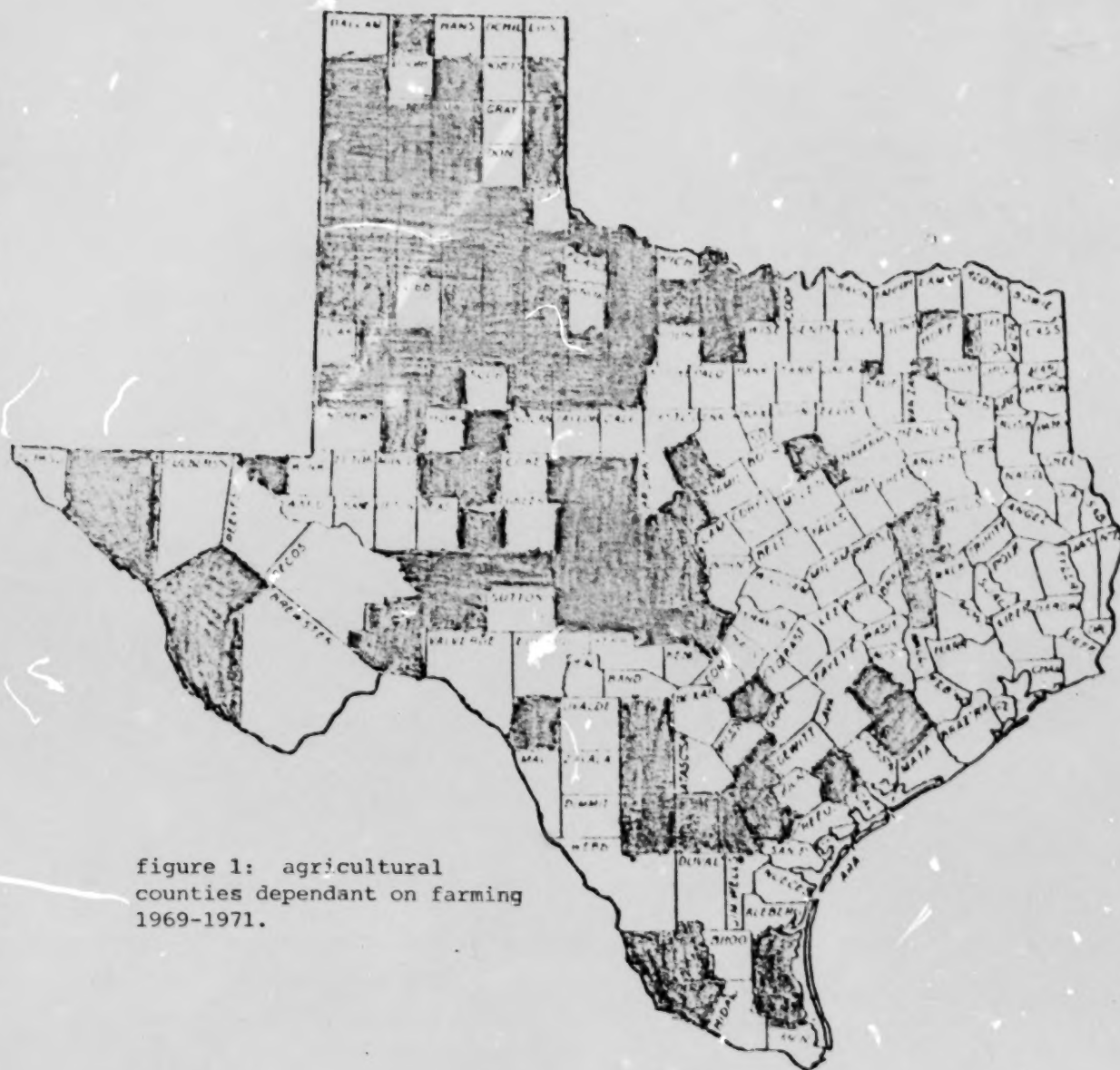


figure 1: agricultural
counties dependant on farming
1969-1971.

TEXAS COUNTIES



figure 2: agricultural
counties dependant on farming
1975-1977.

the most dramatic changes taking place in U. S. Agriculture, in the southern region out of 919,525 farm operators, fifty three percent used farming as a principal occupation, with 46.6 percent as other. Along with that, 33.9 percent of the farm operators worked off the farm two hundred days or more and 7.5% worked off the farm 100-199 days. In 1978 in Texas out of 194,253 farm operators 44.2 percent of the farm operators worked off the farm two hundred days and over, compared to 1974 when 34.6 percent worked off the farm two hundred days and over (table 1).

Table 1: Profile of the States Agriculture: 1978, 1974, and 1969, farm operators working off-farm.

Operators working Off farm:	1978	1974	1969
None	38.3	31.5	n/a
1 to 99 days	9.5	8.0	13.0
100 to 199 days	8.0	7.5	8.4
200 days and over	44.2	34.6	40.6

*1969 data apply only to farms operated by Blacks.

Source: 1978 Census of Agriculture.

Presently in Texas some of the rural communities, counties and other areas are undergoing a tremendous development of land, where off-farm opportunities are available. If the farm operator and farm families are at a position where they are depending on off-farm income for their economic well-being it might continue, unless national employment and income security policies are made to discourage off-farm employment. For large farm operators and some farmers living in the northern plains, where off-farm opportunities are not available, traditional farm policies probably

are more important in determining family well-being (Carlin and Ghelfi).

Land, Land In Farm, and Average Size of Farms

The number of U. S. farms and farm people has declined since 1953, but farming as a business and a way of life is vital to the nations well-being. In 1978 the number of farms in Texas was a total of 194,253 with 137, 547,468 million acres in farm land. Part of this increase is explained by the change in definition of a farm. This is an increase over 1974, when there were 174,068 farms with 134,185,289 acres of land. However, the average farm size decreased (table 2). The factors causing the decrease in farm size has been an combination of increasingly number of small farms, and increasing numbers of large farms, and a decreasing number of middle size farms. Middle size farms have found they must go out of business or come in with a smaller farm. The number of farms were unchanged in Texas from 1980 to 1981 but acreage declined by 300,000 acres.

Table 2: Land, Land in Farms, and Average Size of Farms:

	1978	1974	1969
All farms/number	194,253	174,068	213,550
Land in farms/ acres	137,547,408	134,185,289	142,566,836
Average farm size/acres	708	771	668

Source: 1978 Census of Agriculture.

Market Value of Agricultural Products

The Texas agricultural sector is one of the largest contributors to the whole economy. Texas is the number one producer of cattle, calves and

sorghum. Beef cattle provided the largest source of cash agricultural income in Texas at almost \$5 billion in 1979, representing 37 percent of the State total. The market value of agricultural products sold in Texas totaled \$8,319,725 in 1978 (table 3).

Although Texas agricultural sector is ranked among the top ten states in production of 16 of the nation's top 25 commodities, the future production potential faces some short and long term problems. The cost-price squeeze brought on by increasing energy prices and unprecedented inflation has created a short-run income and liquidity crisis for farmers.

Table 3: Market Value of Agriculture Products Sold:
1978, 1974 and 1969.

Market value of agricultural products sold*	1978	1974	1969
farms	194,253	174,068	213,550
\$1,000	8,319,724	5,638,180	3,391,422
Average per farm	42,829	32,391	15,413

*1974 and 1969 include sales of forest products.

Source: 1978 Census of Agriculture.

In the long run, the limitation of energy and water supplies threaten not only to curb expansion but could actually result in reducing the level of agricultural production in major agricultural areas of the state such as the High Plains.

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Exploring Barriers to Entry of Women Into
Agricultural Production: The Case of the
Independent Female Farmer/Farm Manager

by

L. Gail Bonnell
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The women's movement of the late 1960s has revived an interest in women's contributions to the American economy and has facilitated the entry of women into what formerly were considered "masculine" occupations. At the same time, there has been great concern over the ability of the agricultural industry to provide foodstuffs for an increasing world population. This problem has been exacerbated by the fact that, in the United States in particular, while the size of farms has increased, the number of farms has been steadily decreasing. Additionally, while the government has attempted to recruit more young men into farming through extending farm loans, providing price supports, etc., it has been only marginally successful. The large capital outlay required for startup, the decreasing availability of good farmland, the seasonal instability of farming, and the attractiveness of higher paying, less restrictive, and more prestigious off-farm occupations are all contributing factors to the decrease of the farm population.

As previously mentioned, farm recruitment efforts have been directed solely toward males without regard for women as potential agricultural producers. Until very recently, no attempt has been made to recruit women into agriculture and agriculturally-related occupations. Through various mechanisms women have been discouraged from entering the agricultural sector and have been accepted only into the lower-paying, seasonably unstable farm laborer category (Pearson, 1979).

While it is generally accepted that socialization, sex-role stereotyping, labor market segmentation, income inequality, and discriminatory practices have an effect on women's career aspirations and expectations, it is hypothesized that these factors and others may be even more influential in the special case of women who contemplate entering farming and farm management.

Although there are many women who are successful farmers, the greater majority of these women have inherited the farm they own and/or operate. While an examination of their experiences with discriminatory practices would be required in a larger, more comprehensive study of women in agriculture, this paper is restricted to exploring barriers to entry of women into agricultural production, specifically those occupations classified by the Bureau of the Census as farmers (owners/operators) and farm managers. Attention will also be focused on female agricultural students who, in 1979, comprised over 33 percent of all students majoring in agriculture in Southern land-grant colleges and universities.

The Historical Context

Women are not seeking entry into, nor have they been involved in, an occupation which has previously been a "male domain." Throughout history women have been active in agricultural production. Boulding (1976) provides a comprehensive account of women's participation in and their relationship to agricultural production throughout the world. Originally women in hunting and gathering societies had almost total responsibility for family farming operations. They tilled the soil and planted and harvested crops. Boulding (1976) further attributes the change in the status of women in agriculture to a division of labor in which men assumed responsibility for plowing and caring for cattle which left women with the more menial and secondary tasks of carrying water to the fields, weeding, harvesting, etc. This separation of women from tillage of the soil also separated them from the social and religious structures which revolved around planting rites.

There appear to be no differences cross-culturally in women's participation in the agricultural labor market. Regardless of level of development, political/economic structure, or geographic location, women have assumed a primary role in agricultural production and their intensity of labor has been comparable to that of men. Some of the Scandinavian countries have experienced the "feminization of agriculture" as the partial result of male peasants' migration to urban industrial centers (Castillo, 1977).

Schuler and Taylor (1949) point out that in the United States in 1939 women still performed the heaviest types of farm labor in over 38 percent of all farm families. By 1975, 71 percent of farm wives were actively involved in at least some aspect of agricultural production (Holberg and Huffman, 1978). As succinctly stated by Hill (1981:370), "Women are America's invisible farmers." Smuts (1959) describes the contribution of women farmers in the development of the United States. He considers those women who homesteaded land on their own during the development of the West as "...probably the largest group of independent career women in the country." (Smuts, 1959:138). It now appears, however, that what had once been an accepted occupation for women has become a "nontraditional" one. We must ask "Why?"

It cannot be denied that women have served as a reserve labor pool, not only in the industrial sector, but in the agricultural production areas as well. One only has to glance through popular periodicals and farm journals of 1942 and 1943 for verification. "Patriotism" and "vacation opportunities" were used as inducements to lure three million women into agricultural production slots which had been vacated during World War II when farmers were either away at war or had left their farms unattended to work in the higher paying war industries (Independent Woman, 1942). Women were recruited from all occupational groups as well as from the home to join the "Women's Land Army." Many received modest wages for their farming activities while others worked to fulfill noneconomic needs. When the war ended, men returned to the farms to claim their "rightful" positions, once again displacing women as agricultural producers. The same situation had occurred in World War I when the Women's Land Army was originally organized.

More recently, technological advancements in agriculture which have reduced the requirement for full-time hired hands, migration from farm to city, urbanization of rural areas, and off-farm employment opportunities for women have reduced women's participation in agricultural production. Consequently, those women who remained on farms were usually relegated to a secondary "helpmate" position. Flora and Johnson (1978) contend that the displacement of women in agriculture is a direct result of increased mechanization which lessened the usefulness of women in agricultural production. While mechanization and automation have affected women's agricultural participation, especially in the farm laborer category, this development should, in reality serve to reduce one barrier to entry of women into agriculture. Specifically, one argument against women's entry into farming is their purported physical limitations. However, given the fact that women in the past (and today) performed the same farming tasks as men, often in addition to performing all household tasks, and given that mechanization has lessened the requirement for sheer physical strength, the "physical limitation" argument is not a valid one. Furthermore, were it not for the unpaid labor which farm women continue to contribute, many farms would fail economically. This "supportiveness" factor is discussed by Straus (1960) who hypothesizes that technological competence of male farm operators is associated with an integrative, supportive wife. If, as history has shown, women are physically capable as farm producers, then other factors which inhibit their participation as independent agricultural producers and managers must be examined.

Socialization, Attitudes and the Normative Structure as Barriers to Entry

It is generally held that women, especially those in rural areas, have been socialized to believe that most agricultural occupations are "men's work" and that homemaking, childrearing and "helping" to ease the husband-farmer's workload were the proper roles for women. A glance through agricultural textbooks, extension bulletins and other related agricultural literature published as late as the early 1970s points to the conspicuous absence of women in all farming activities except "in the kitchen." The only time a woman could legitimately operate or manage a farm was in the absence of a male breadwinner. When, in such cases, women were forced to work as agricultural producers and were able to dispell the myth of physical weakness, they were often considered "sexless," and a threat to family cohesion and the moral standards of the community (Smuts, 1959). Women were also discouraged from majoring in agriculture in college since some subjects such as animal reproduction were inappropriate for females.

In some respects women limited their own access to agricultural occupations in that they lacked the aggressiveness to pursue non-traditional roles. They also feared the pursuit of such occupations would make them more threatening and less attractive to men. Many women internalized the values and attitudes of their families as to the proper roles for women. According to Hill (1981), women's roles and rights as farmers are strongly influenced by kinship considerations and, in some instances, farm women experience considerable conflict between their "nurturant" roles and their rights as participants in farming operations.

4

Almquist (1974) found in a longitudinal study of college women that over time, and with increasing education, familial attitudes had little or no effect on women's choice of traditional versus nontraditional occupations. These findings are more meaningful when compared to the results of a study of rural youths' occupational sex-role stereotyping (Butler, 1975). The respondents in this study were female elementary students. Although none of these students responded "farming" when asked about their occupational aspirations, when the same question was asked to rural female high school students in a follow-up study, a few of these students indicated an interest in farming. Youmans (1959), when asking 16 and 17 year-old girls and boys what kind of work they planned to be doing in three years, found that only 1 percent of the girls responded "farming" as compared to 19 percent of the boys. It would appear that, even though younger girls' career aspirations may be somewhat influenced by parental attitudes toward appropriate occupational roles for women, as these girls progress further in the educational process where they are more frequently exposed to nontraditional occupations, parental attitudes and occupational sex-role stereotyping become less significant factors in women's career aspirations. This supports Stokes and Willits' (1974) hypothesis that although occupational sex-role stereotyping continues to exist, it is more prevalent among men than women and that attitudinal changes are taking place. It remains to be seen whether these changes are taking place in the agricultural sector. While there is an abundance of literature on nontraditional occupations for women, virtually none of the occupational guides for women include farming or farm manager as an occupation for women's consideration.

Underrepresentation and Income Inequality as Barriers to Entry

Women's farm labor has been seriously undercounted in the Census. Seventy percent of the female population in the Third World is involved in agricultural production while only 5 percent of the female population in the United States is so involved. Both groups are undercounted in that women are counted as only one-fifth of the world's agricultural labor force (Boulding, 1980:261). Field studies show, however, that closer to 50 percent of the agricultural population is comprised of women. In the United States, farm wives are not counted as agricultural producers in the Census. They are usually classified as unpaid family workers. For a comprehensive discussion of the value of production time of farm wives, see Huffman (1976). This omission is exacerbated by the fact that women are often conducting farm operations where husbands have off-farm employment. Given the steady increase in part-time farming (54.3 percent of this nation's farmers are classified as part-time), one must reevaluate the Census enumeration procedure. Additionally, the Census of the Farm Population is conducted in mid-March and only those employed at least fifteen hours per week during that specified Census week are counted. In most areas of this country, farming activity during this period is at a minimum.

Census figures on women as farmers and farm managers show a steady decline since 1940 when women comprised 1.4 percent of those categories. As of 1970, women made up only 0.2 percent of all farmers

and farm managers (Flora and Johnson, 1978). According to more recent figures by Lyson (1979a), women now account for about 5 percent of all farmers and farm managers. Approximately 74,000 women own and manage farms in the United States (Joyce and Leadley, 1977:8).

Where women are counted in the Census, data reveals income inequalities between women and men in identical agricultural occupations. Given our interest in farmers and farm managers, a comparison of median earnings for "all workers" in this category by median earnings for "women only" shows the following statistics for 1977 (Department of Labor, 1979).

Median earnings of all farmers and farm managers	Farmers & Farm Managers with Earnings above Median	Farmers & Farm (women only) with Earnings above Median	Women as % of All Farmers and Farm Managers above Median
\$4,219	555,000	4,000	.7

A table of median earnings for all full-time agricultural workers shows that men's earnings exceed women's by 69.7 percent (Department of Labor, 1979). Consequently, the earnings gap between men and women across all agricultural occupations highlights the income inequality which exists between male and female participants in the agricultural sector.

Occupational Aspiration and Educational Attainment

While there is an abundance of literature on occupational aspiration of rural youth, few studies include females. Most of these studies focus on differences in the occupational choices of those reared in rural and urban areas (Middleton and Grigg, 1960; Haller, 1958; Edlefson and Crowe, 1960). As is true in the general stratification research, the migration literature dealing with the effects of farm origin on occupational achievement is relevant only to males (Blav and Duncan, 1967). Other studies adopt a more social psychological interpretation of the considerations and factors involved in males' selection of farming as an occupation (Haller, 1959).

A cross-cultural study of rural youth in Germany, Norway, and the United States highlights the normative and structural conditions which affect occupational choices but, again, this study concentrates on farmers' sons (Lyson, 1978). Sewell and Orenstein (1965) introduced the size of community as a predictor of males' choices of high status occupations controlling for intelligence and socioeconomic status. Haller and Sewell's classic study of Wisconsin farm boys, while contributing to the literature on the effects of planning to farm on educational achievement, totally neglected to include women (Haller and Sewell, 1967). See also, Haller (1957) for a similar study. Apparently an implicit assumption in Haller and Sewell's theory was that girls never consider farming as a viable career option.

Brinkerhoff and Kunz (1972) present alternative methods for measuring perceived barriers to occupations which they feel are more important than the barriers themselves. While female and male seniors and freshmen were included in their sample, the ten occupations selected by the authors from the North-Hatt study were, by their own admission, male oriented. Needless to say, farming and farm-related occupations were not included in the list.

Burchinal (1962) elaborated the characteristics of boys planning to farm. In addition, he stated that previous research had indicated no significant differences in career aspirations between nonfarm and farm girls, commenting further that "This is not surprising because employment is secondary to women's major adult roles of wives and mothers." (Burchinal, 1962:11).

Slocum's 1976 study of high school students in Washington State does show some indication that females, at least in the particular geographic area under study, give stronger consideration to farming as a career option. Slightly over 25 percent of the females interviewed indicated that they would like to be a farm operator (Slocum, 1976).

If we can accept previous findings that women can compete physically with men in farm production, that sex-role stereotyping is slowly diminishing, that attitudinal changes are taking place, that women feel less restricted in aspiring to nontraditional occupations, and that some young women do aspire to farming as an occupation, then we are forced to explore whether there is some feature or aspect of the educational structure which discourages women from becoming agricultural producers.

In the past, high school counselors have steered females into home economics and more traditionally female occupations (i.e., nurse, social worker) and away from agriculture. Those females who showed an interest in agriculture were seldom given any positive encouragement. Girls were seldom allowed to participate in FFA and their 4-H activities focused on homemaking skills.

In recent years, however, females have begun to show interest in agricultural education classes at the secondary level. According to Curry (1975:270), this change has come about as a result of several factors which include the women's movement, changes in societal expectations for women, and laws which prohibit sex discrimination. Of particular importance is Title IX of the 1972 Educational Amendment which provides for the withholding of federal financial assistance from agricultural programs or activities which discriminate on the basis of sex. Unfortunately, although sex discrimination is prohibited, encouragement by counselors, teachers and advisors cannot be mandated. Nor is expansion of vocational agricultural programs to provide for the special needs of female students required. Simply allowing females to enter agricultural education programs without attempting to attract them into such programs in no way reduces the barriers to entry of women into production agriculture.

It is generally acknowledged that increasing agricultural technology and mechanization and the need for skills in management, planning and coordination required specialized education at the college level (Molnar and Dunkelberger, 1981). Over 33 percent of the students majoring in agriculture in land-grant colleges in 1979 were women (Lyson, 1979b), women who presumably have overcome some of the previously discussed barriers. Apparently these women, by their presence at such institutions, are indicating a preference for a career in the agricultural sector. Therefore, it is appropriate that special attention be given to an examination of the choice process through which female agricultural students arrive at a decision to pursue production agriculture and the factors and conditions which affect that decision.

The Female Agricultural Student

While the effects of farm background on educational and occupational aspiration, expectation and attainment of rural youth have been topics of research interest for many years, agricultural students have become the topic of more current research, particularly those agricultural students in land-grant colleges and universities where most agricultural programs are located.

Glick (1964) conducted a study of undergraduate agricultural students to explore the determinants of occupational choice. Of particular interest was the anticipated occupational frustration which occurs when there is a discrepancy between occupational aspiration and occupational expectation. Unfortunately, female students were not included in the sample. While the most significant determinant of the number of dimensions of anticipated occupational frustration for male students was father's occupation, it is safe to assume that other variables would have to be included in a model to be used for female students. A similar study by Cosby and Picou (1971) found that anticipatory occupation goal deflection (Glick's anticipated occupational frustration) was inversely and more significantly related to socioeconomic status (as measured by father's occupation, father's income, father's education, and size of farm). The description of the sample population in this study does not mention whether females were included. Here, again, it is possible that differentiation by sex may have somewhat altered the findings.

A more recent study by Dunkelberger (1978), using data from the USDA/SEA-CR Southern Regional Research Project S-114 ("Defining and Achieving Life Goals: A Process of Human Resource Development"), presents some interesting findings. Women comprised slightly more than 25 percent of the sample of 2,535 agricultural students surveyed in the 1862 land-grant universities in the South. They were more likely to have attended private secondary schools and were more than twice as likely as men to report being "A" students. Only 6 percent of these women had taken an agriculture course. This forces one to question the effectiveness of agricultural education for women at the secondary level. Eighty percent of the women did indicate that a course in biology was one of the determining factors in their decision to major in agriculture in college. Another factor previously mentioned participation in FFA and agriculturally-related organizations, diminishes somewhat in importance in light of the fact that women's participation in FFA (6 percent) exceeded that of the male respondents (2 percent). Given that only 8 percent of the sample participated in such organizations at all, it would appear that, at least for male and female students who continue their education in agricultural colleges, participation in agriculturally-related organizations in high school is not a strong predictive measure of agricultural career aspiration. It is possible, however, that for secondary school students who do not plan to attend college, participation in such organizations may be more relevant in that such participation provides practical experience and exposure to various facets of agricultural production.

Dunkelberger (1978) also found that the amount of farm work experience did not appear to be a significant factor. Although male students had considerable more agricultural experience than females, 90 percent of all students had at some time held non-agricultural jobs. It may be

that this non-agricultural employment had an adverse effect on these students' consideration of any occupation, other than an agriculturally-related one, as a viable career option. Preference for rural life appears to influence both women and men in pursuing agricultural careers.

With regard to occupational aspiration and expectation, Dunkelberger found that more women aspired to veterinary medicine than any other single profession but that the modal expectation for women was nursery owner/Florist. This emphasizes the importance of considering goal deflection and occupational frustration for female agricultural students who might otherwise aspire to production agriculture careers. Female respondents also expected to earn less than men in their occupational pursuits, which points out an awareness on their part of income discrimination.

Of particular interest are the responses to questions regarding expectation to farm. Sixty-three percent of the female respondents indicated that they expected to own a farm (or ranch), compared to only 41 percent of the male respondents. Additionally, 63 percent of the women in the sample had inherited or expected to inherit a farm compared to 49 percent of the males. Since access to existing farms and/or farmable land is considered conducive to one's decision to farm, it would appear that women agricultural students are in a much better position to decide on a career in production agriculture and to fulfill their expectations to farm.

Another factor for consideration is a comparison of female agricultural students from farm and non-farm backgrounds and the effects of background variables on their agricultural career choices. A study comparing college men in agriculture curriculums from farm and non-farm backgrounds was conducted by Lyson (1979b) in which he found, not surprisingly, that men from farm backgrounds, who also have parents from farm backgrounds, were more likely to become farmers. This variable should certainly be included in a model which attempts to explain women's intentions (or lack of intention) to enter farming.

Using the same S-114 data, Lyson (1979a) presents a thorough examination of the occupational planning process of female agricultural students. Along with the variables used in the Dunkelberger (1978) study, Lyson introduced personal and parental background variables which were not differentiated by sex in the Dunkelberger study. Although Lyson's sample was somewhat smaller, 38 percent of the women responding planned to be general farmers and 16.3 percent planned to be farm managers. He also found that women who were oriented toward farming were more likely to come from farm backgrounds. The most startling finding from this particular study is that almost three-fourths of the women who expect to inherit a farm aspire to a non-farm career. Lyson suggests that these women may plan to farm part-time or use the farm land for investment (Lyson, 1979a:315). In this particular study it would appear that, while the absence of access to farm and/or farmland may be a barrier to entry of women into production agriculture, ownership of or access to same does not guarantee that women will pursue full-time careers in production agriculture.

Lyson's most recent study (1981) is perhaps the most comprehensive one to date in that it compares males (n=899) and females (n=286) in a 15 percent random sample of agricultural students in Southern land-

grant colleges. Utilizing the S-115 data, Lyson examines three sets of variables -- social background characteristics, significant other influences, and prior agricultural experiences -- in an attempt to "identify similarities and differences in the factors and conditions that lead women and men to pursue agricultural degrees in college." (Lyson, 1981:85). The results of this part of the study, using discriminant analysis, indicate that social background characteristics and significant others played a secondary role to agricultural experience and education as the most important factor in distinguishing male from female agricultural students. Male students had a wider variety of agriculturally-related work and educational experiences. Few females had participated in FFA or taken an agriculture course at the secondary level, and still fewer had actually worked on a farm or agriculturally-related job. With regard to career orientation and expected attainment outcomes, Lyson found that males (35.2 percent) were more likely to pursue a career in production agriculture than were women (33.5 percent). There were no sex differences in expected educational attainment of those who planned to pursue a career in production agriculture. The greater percentage of women in the sample (34.5 percent) planned careers in agricultural education/research. As pointed out earlier in this paper, and supported by Lyson's 1981 study, we must question whether women are "tracked" into different agricultural careers and whether they have been made aware of the variety of agricultural occupations that exist. In addition, no sex differences in expected educational attainment existed between males and females; however, females opting for careers in production agriculture did not expect to earn as much as the males who had the same career orientation. Females oriented toward production agriculture tended to have higher status expectations than males in that they (females) desired managerial level occupations.

While the above studies provide a good foundation for further research on perceived and existing barriers to entry of women into production agriculture, they also evidence the need for a different approach to studying the process through which women aspire to agricultural occupations, and farming in particular.

Conclusion and Recommendations for Future Research

We have probed only a few dimensions of the process through which women seek to fulfill roles in production agriculture. We have found that women have been and continue to be actively involved in agricultural production, and that during particular periods of history, they have been the primary producers.

It has been suggested that young females have been discouraged from pursuing agricultural careers as a result of socialization, sex-role stereotyping, and discrimination in the education process. Economic factors such as lack of access to farmable land, discrimination by

financial institutions, difficulties in securing farm labor, and income inequality are also assumed to have an effect on women's agricultural participation. We have more closely examined the differences in expectations and aspirations of male and female agricultural students. An underlying assumption in much of the literature is that women do not see production agriculture as a viable occupation and we must certainly take personal choice into consideration. It is also implicitly assumed that the barriers which men face are identical to those faced by women. It is obvious to this author that the model derived to explain the process through which males aspire to and attain agricultural occupations is not sufficient to explain the process for females. Dunkelberger and Molnar (1981) concur. Furthermore, more than one model is needed to explain women's agricultural occupational choices. It appears reasonable to assume that the agricultural career process of women who do not plan to attend college would be different from those who do plan to attend and do so.

It is also entirely possible that those women who have successfully overcome the barriers to entry into college agriculture programs aspire to more prestigious and economically rewarding positions in such areas as agronomy, horticulture, and veterinary medicine, to name a few. Given that all agricultural occupations fall with the periphery sector which is characterized by smaller-scale operations, labor intensity, low profits, low wages and low status (see Beck, et al, 1978, for a description of the characteristics of the two sectors), and given the income inequality which exists between sexes within the agricultural sector, it follows that farming and farm management may not be an economically sound career choice for women. If occupational prestige is a concern of these women, and if, as Reiss (1961) posits, the only prestige given to farming occupations is that which is given by the agricultural community, women would be placed in a more competitive situation with their male counterparts, especially in view of the fact that in rural areas men are considered to be the "bread-growers" as well as the "bread-winners."

The fact still remains, however, that women are increasingly pursuing careers in production agriculture and many are attending agricultural colleges to acquire the skills and knowledge required to make them more competitive in what has been a man's world.

Consideration should be given to studying the effects of farm background on attitudes of female agricultural students. The two studies to date which examine this relationship are Boyd and Pettigrew (1977) who totally exclude females and Lyson (1981) who found childhood residence to be the most important discriminating variable between male and female social background characteristics.

Agricultural programs, especially at the secondary school level, need to be examined to determine if they are fulfilling the needs of women students.

Data should be collected on loan applications and approval rates for women who desire to enter farming and those who have inherited a farm and wish to continue its operation. The 1980 NORC Survey of Farm Women contains questions which address this issue. However, the majority of respondents are farm wives and they, like the few independent women farmers in the survey, are already engaged in production agriculture.

Attention should be given to the relationship between women's expectations to farm and their marital status to determine whether

plans to marry and have children deter women from pursuing careers in farming and farm management. It seems logical that farming and rearing a family would be quite compatible; however, this may not be the case.

To conduct a thorough examination of women's participation in production agriculture, studies need to be undertaken which examine the experiences of women who have entered farming, either independently or through inheriting a farm. Of equal importance is the study of the kinship nexus and the individual rights of women within a family farm context. A knowledge of the social and economic conditions of these women farmers would be required in determining if perceived barriers to entry are congruent with experiential barriers.

Lastly, little is known of women's participation in agribusiness. If the number of farms continues to decline, women who wish to farm may have no alternative but to affiliate with the larger agribusiness sector. Lyson's 1981 study showed that 32 percent of the female agricultural students in his sample planned a career in agribusiness, yet they anticipated earning less than their male counterparts. Consequently, actual experiences of women in agribusiness would be beneficial for researchers studying women in nontraditional occupations as well as for those who are particularly interested in women's roles in production agriculture.

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BARRIERS EXPERIENCED BY LOW-INCOME SMALL FARM OPERATORS SEEKING OFF-FARM
EMPLOYMENT IN THREE COUNTIES OF EAST CENTRAL ARKANSAS

Gwendolyn T. Lee, J. Martin Redfern, Dewitt Jones
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INTRODUCTION

With current economic trends geared toward fewer but larger farms, the small farmer* may be at a greater disadvantage financially during the 1980's. However, the opportunities available for small farm operators or other farm family members to earn off-farm income or their volitional ability to make changes in their farming operations by adopting new enterprises (or enterprise combinations) may have a greater impact on small farm survival.

There are many reasons why net farm income might be lower than a theoretical optimum level: (1) many small farm operators do not operate at full capacity because they cannot get the necessary capital needed for full-scale operation; (2) some small farmers may not be aware of the financial institutions and other agricultural agencies that are available to assist them; (3) many who are informed lack the collateral to secure funds which may be available; (4) many small farmers do not make the best choice of enterprises for efficient utilization of natural resources at their disposal.

* A small farmer is defined as one with annual gross sales of at least \$1,000 but less than \$20,000.

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The state of Arkansas had 58,766 farms according to 1978 United States Census of Agriculture data, of this number 18,114 (31 percent) had annual gross sales of less than \$2,500. During the same year approximately 70 percent of all farms in Arkansas had annual gross sales of less than \$20,000.

Although the Delta area of Arkansas does contain a significant number of large farms, there are also many small farms in that area. Ray Marshall has argued that these small farms make a significant contribution to the Arkansas economy (Ray Marshall, July, 1976). Even though research work has been done on barriers to employment of Blacks in Arkansas Delta area (Mary Jo Grinstead, et al., 1975), little is known about barriers that impede low-income, small farm operators and members of their families from obtaining off-farm employment in Arkansas. (Barriers such as health condition, educational level, distance required to travel to obtain off-farm employment and lack of vocational skills, to list a few). Therefore, this research report is focused on these farm families.

The three counties chosen to comprise the study area were Crittenden County, St. Francis County and Monroe County (Figure 1). These counties are located in the Mississippi Delta region of East Central Arkansas. They are also adjacent to each other and have similar agriculture operations, but were hypothesized to each have labor markets with different characteristics than each of the other two.

Crittenden County is adjacent to the major metropolitan area of Memphis, Tennessee, and points in the county lie within a 50-mile radius of Memphis. Memphis is likely to continue to have increases in economic activity in the future.

FIGURE 1



AREAS 1, 2 AND 3 REPRESENT THE COUNTIES SAMPLED

1 = CRITTENDEN COUNTY - URBAN LABOR MARKET; 2 = ST. FRANCIS COUNTY - URBAN LABOR MARKET; 3 = MONROE COUNTY - RURAL LABOR MARKET

The second county, St. Francis County, is also classified as an urban labor market center. In one section of this county is the town of Forrest City that serves as an important sub-labor market in its own right, because of certain types of industrial clientele's willingness to locate within the Forrest City area, and the neighboring town of Wynne.

Forrest City is approximately a 35 to 40 minute drive from Memphis, Tennessee, and situated near Interstate 40, a connecting (east/west) point for Little Rock and Memphis to all points in the United States or Foreign Countries.

The third county, Monroe County was selected to represent a rural labor market which included farm operators within a fifty-mile radius of an urban center with 35,000 or less population and not closer than a 75 mile radius of an urban center with a population of 50,000 or more.

A random sample of 212 small farm operators was drawn, (72 usable responses were returned from Crittenden County, 66 from St. Francis County, and 74 Monroe County).

STATISTICAL CHARACTERISTICS PROFILE

DIFFERENCES AMONG CRITTENDEN, ST. FRANCIS AND MONROE COUNTIES:

This part of the presentation looks at differences between farm operators and their spouses among the three labor markets from two aspects:

- (1) Socio-economic variables were examined to see if there were differences between counties; differences in incomes and job opportunities were looked for.
- (2) An analysis will be presented explaining the differences.

Where a statistical test is presented, a significance level of 5 percent was used.

In 1977, when this survey was conducted, transportation and distance did not appear to be as significant an obstacle to securing and retaining off-farm employment as some other variables. Of those respondents with off-farm employment, 21.2 percent traveled 20 or more miles (one-way) to their jobs (Table 1).

The mean one-way distance traveled to work by those operators who had off-farm employment was approximately 14 miles in Crittenden County, 11 miles in St. Francis County, and 13 miles in Monroe County. However, there was no significant difference between the counties (F probability = 0.1328).

TABLE 1. DISTANCE SMALL FARM OPERATORS TRAVELED TO WORK IN THREE EAST CENTRAL ARKANSAS COUNTIES, 1977

APPROXIMATE MILES TRAVELED	CRITTENDEN		ST. FRANCIS		MONROE		TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%
Less than 5 miles	8	22.9	10	25.0	8	33.3	26	26.3
6 to 9 miles	5	14.3	11	27.5	3	12.5	19	19.2
10 to 19 miles	11	31.4	16	40.0	6	25.0	33	33.3
20 miles or more	11	31.4	3	7.5	7	29.2	21	21.2
No Response	0	0.0	0	0.0	0	0.0	1	0.0
TOTAL	35	100.0	40	100.0	24	100.0	99	100.0

Another study by one of the authors suggests that opportunities for more car-pooling still existed in 1977 (Mike Woods and J. Martin Redfern, 1977). If this and other opportunities to conserve fuel and hold down the cost of driving to work did exist, it is possible that commuting distances to work may not have changed much in the intervening time.

Of the total 212 small farm operators, Black operators accounted for 180 (84.9 percent) and the remaining 32 (15.1 percent) were White; 28 (13.3 percent) of the operators were female. There is a high percentage of Blacks in the general population of each county.

There were 100 operators who had off-farm jobs. Of those respondents who had off-farm jobs, 37.3 percent did so 100 or more days during that year. Tables 2 and 3 show a distribution in each county of net farm and off-farm income. As can be seen, 82.3 percent of these operators had less than \$2,500 in net farm income.

TABLE 2. NET FARM INCOME OF SMALL FARM OPERATORS IN THREE EAST CENTRAL ARKANSAS COUNTIES, 1976

NET FARM INCOME	CRITTENDEN		ST. FRANCIS		MONROE		TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%
Less than \$1,000	38	54.3	35	53.8	49	66.2	122	58.4
\$1,000 to 1,499	14	20.0	12	18.5	10	13.5	36	17.2
\$1,500 to 2,499	8	11.4	4	6.2	2	2.7	14	6.7
\$2,500 to 3,999	3	4.3	6	9.2	4	5.4	13	6.2
\$4,000 to 4,999	3	4.3	4	6.2	6	8.1	13	6.2
\$5,000 to 7,499	4	5.7	2	3.1	3	4.1	9	4.3
\$7,500 to 9,999	0	0.0	2	3.1	0	0.0	2	1.0
TOTAL	70	100.0	65	100.0	74	100.0	209	100.0

TABLE 3. NET OFF-FARM EARNINGS OF SMALL FARM OPERATORS IN THREE EAST CENTRAL COUNTIES IN ARKANSAS, 1976

ANNUAL NET OFF-FARM INCOME	CRITTENDEN		ST. FRANCIS		MONROE		TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%
Less than \$1,999	7	21.2	5	13.2	10	50.0	22	24.2
\$2,000 to 3,999	5	15.2	6	15.8	1	5.0	12	13.2
\$4,000 to 5,999	7	21.2	3	7.9	5	25.0	15	16.5
\$6,000 to 7,999	9	27.3	9	23.7	3	15.0	21	23.1
\$8,000 to 9,999	4	12.1	7	18.4	1	5.0	12	13.2
\$10,000 and over	1	3.0	8	21.1	0	0.0	9	9.9
No Response	0	0.0	0	0.0	0	0.0	9	0.0
TOTAL	33	100.0	38	100.0	20	100.0	100	100.0

The national poverty level for a family of two in 1977 was \$2,500. Therefore, it is not surprising that within the counties surveyed, 47 percent of all farm operators interviewed worked some days off the farm each year.

Many operators surveyed indicated their present standard of living for their families depended on the wife's ability to supplement the family income. The percentage of working wives among the three counties sampled averaged nearly 40 percent.

Of the remaining 112 (52.8 percent) operators who did not have an off-farm job, 23 percent of those interviewed indicated they would have worked off the farm if a job could have been located.

There was no significant difference among the counties in the sex, health, education or race of the farm operators and their spouses.

It is especially difficult for farmers who are educationally disadvantaged to acquire supplemental jobs. Of the 212 operators surveyed, slightly more than 75 percent had completed less than 12 years of schooling (Table 4). Many of those persons may be hampered in the development of goals for their families and individual self-realization.

There was as significant difference (χ^2 probability = 0.9971) among the counties with regard to how many operators had received vocational-technical training. Thirty percent had received such training in Crittenden County, 22 percent had received it in St. Francis County, but only 8 percent had received it in Monroe County. The same pattern held true with regard to vocational technical training of the spouses.

TABLE 4. EDUCATIONAL LEVEL OF SMALL FARM OPERATORS IN THREE EAST CENTRAL ARKANSAS COUNTIES, 1977

YEARS OF SCHOOLING	CRITTENDEN		ST. FRANCIS		MONROE		TOTAL	
	NO.	%	NO.	%	NO.	%	NO.	%
No School	1	1.4	0	0.0	4	5.6	5	2.4
1 to 4 Years	14	19.4	5	7.6	7	9.9	26	12.4
5 to 8 Years	27	37.5	25	37.9	27	38.0	79	37.8
9 to 11 Years	12	16.7	17	25.8	24	33.8	53	25.4
12 Years	10	13.9	11	16.7	6	8.5	27	12.9
13 to 15 Years	4	5.6	6	9.1	2	2.8	12	5.7
16 Years (College Graduate)	4	5.6	2	3.0	1	1.4	7	3.3
No Response	0	0.0	0	0.0	0	0.0	3	0.0
TOTAL	72	100.0	66	100.0	71	100.0	212	100.0

OFF-FARM EMPLOYMENT AND WAGE RATES

By viewing the occupational distributions of low income small farm operators, the classification with the highest frequency was factory worker (including processing), 31.3 percent.

It appears that the percentage of operators who worked in factories was much higher in St. Francis County than the other two counties (43 percent versus 21 percent in Crittenden County and 28 percent in Monroe County). In addition, there were five craftsmen in St. Francis County and only one operator working as a craftsman in Crittenden County and zero in Monroe County.

Agricultural service workers (laborers), accounted for 17.2 percent of operators employed off-the-farm followed by sales or clerical, 16.2 percent; general personal service positions (including barbering,

cosmetology, and related services) accounted for 10 percent. The remaining 25.2 percent were employed in other off-farm occupations.

There was a highly significant difference among the counties with regards to off-farm employment by the operator. Off-farm employment was highest in St. Francis County - almost sixty percent of the operators had off-farm employment. Fifty percent of the operators in Crittenden County had off-farm employment and only 34 percent had off-farm employment in Monroe County.

A X^2 analysis was run on hourly wage of the operator using the following intervals: (less than \$2.49 per hour, \$2.50 - \$2.99, \$3.00 - \$3.99 and \$4.00 or more per hour), the X^2 was highly significant (F probability - 0.0006). A high percentage of the operators in Monroe County who had off-farm jobs were being paid less than \$2.49 per hour (32 percent); only 8 percent received more than \$4.00 per hour. In contrast, 65.8 percent of the operators working off the farm in St. Francis County received wages of \$4.00 per hour or more; in Crittenden County 38 percent received wages of \$4.00 per hour or more.

Net farm income was not significantly different at the 5 percent level (F probability for net farm income was 0.5614) when income of the three counties was compared. However, off-farm income was significantly different among counties at the F probability = 0.0009, a highly significant level.

Weighted averages were calculated for off-farm net income of each operator employed on off-farm jobs. In St. Francis County, the average off-farm income for each operator was \$5,842; in Crittenden County, \$5,090; and extremely low in Monroe County, \$3,400.

When the three counties that represent three different labor markets were compared, socio-economic characteristics of the operators and their spouses were remarkably similar among the counties.

Using the statistical significance level of 5 percent, there were no significant differences in the following variables: sex, age, health, and race of the operators, level of schooling achieved by the spouse, health of the spouse, and training for off-farm employment received by the operator and the spouse. When a statistical significance level of 10 percent was used, there was a significant difference between counties on the level of schooling achieved by operators with the Monroe County operators having less years of schooling than the Crittenden and St. Francis County operators.

One result that was contrary to the expectations of the researchers was that average one-way mileage to work was not significantly different between the counties.

Although the socio-economic characteristics of the operators and spouses were not significantly different at the 5 percent level (except for vocational technical training received), there were significant differences in the off-farm employment characteristics. Frequency of off-farm employment was highest in St. Francis County and lowest in Monroe County. Wage rates were lower in Monroe County when compared to the other two counties.

The variety of occupations differed also. St. Francis County had a high percentage of operators who worked in factory occupations when compared with the other two counties.

SPECIAL PROBLEMS

Operators responded to special problems they experienced when seeking off-farm employment. Thirty-two (17.8%) of the total operators indicated little or no basic educational skills (reading, writing, etc.). Twenty (11.1%) cited lack of vocational technical training as definite barriers for those low-income farmers and their families seeking off-farm employment. These variables were followed by race discrimination (7.2 percent), and little or no information about job availability in labor market areas (4.4 percent).

Only a small number, 23 (or 11 percent), of all small farm operators sampled indicated they had enrolled in continuing education courses, through vocational technical or basic education program to enhance their educational skills.

This study further revealed that health and age tended to be barriers to off-farm employment. Of the 212 respondents, 20 (9.4 percent) indicated their physical disabilities to be the reason they were not working at an off-farm job. More than one-half of those interviewed indicated their health status to be fair to poor.

The percentage of small farm operators 55 years of age and older ranged from 27.4 percent to 29.7 percent. This factor may explain why many of those responding were in fair to poor health, since disadvantaged rural residents tend to obtain a minimal amount of health care.

IMPLICATIONS

One policy that might help workers in Monroe County (Rural Labor Market) is for existing plants in the area to expand their work force or for new plants to be located in Monroe County within commuting distance of the county residents. An additional policy that might help all workers, but especially those in Monroe County, would be additional vocational-technical

training. The availability of such training is about the same as it was in 1977. Subsidized training might be judged desirable since it seems unlikely to the authors that small farm operators, mostly in their fifties, would be able to justify such training without some subsidy.¹

Finally, it is important to restate that the operators in the sample were relatively old. The average age for the sample is 54. Many will be retiring in 10 years or more. If their farms are to be farmed as separate entities after this generation of farmers retires, the new farmers will have to receive some of their total income from off-farm jobs that they or their spouses hold.² Ideally these jobs would pay high wages. Without this off-farm income, the authors believe that the continuation of these small farms as separate entities is in doubt.

¹The Southern Rural Development Center sponsored a conference on Continuing Education for the 80's in Houston, Texas, in February, 1981, that addressed these kinds of issues.

²Since the great majority of these operators are Black, it might be useful to trace the disposition of these farms when the present owners retire. Some of these acres might change from Black to White ownership.

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A SYSTEMS MODEL AS A THEORETICAL MODEL
FOR ANALYZING COMMUNITY ORGANIZATION AND CHANGE

Roger Hecht
East Tennessee State University

The community is a social system made up of many smaller social systems. This social systems model is constructed to be used as a theoretical basis for analyzing community organization and change. More specifically this effort will focus on the processes at work within the various systems in the community for the purpose of evaluating a general growth or stasis orientation of the community. It is hoped that understanding such a theoretical basis can point to some practical applications as to the most efficient ways of working in community to bring about desired change.

Four processes--communications, system linkage, decision making, and integration--are examined in the context of a stasis-change oriented model, in an attempt to determine in what ways the nature of the various processes determine a system's orientation to change.

These processes are closely interrelated, and the position of any one of them on a stasis-change continuum will greatly influence, and be influenced by, the other processes.

The four processes, and their characteristics which contribute to the stasis-change orientation of the system are illustrated in Figure 1.

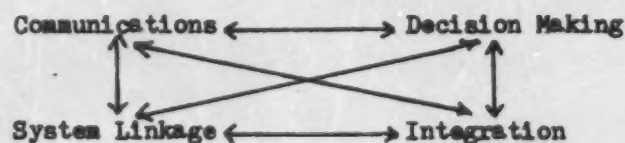


Figure 1.--Interrelated processes.

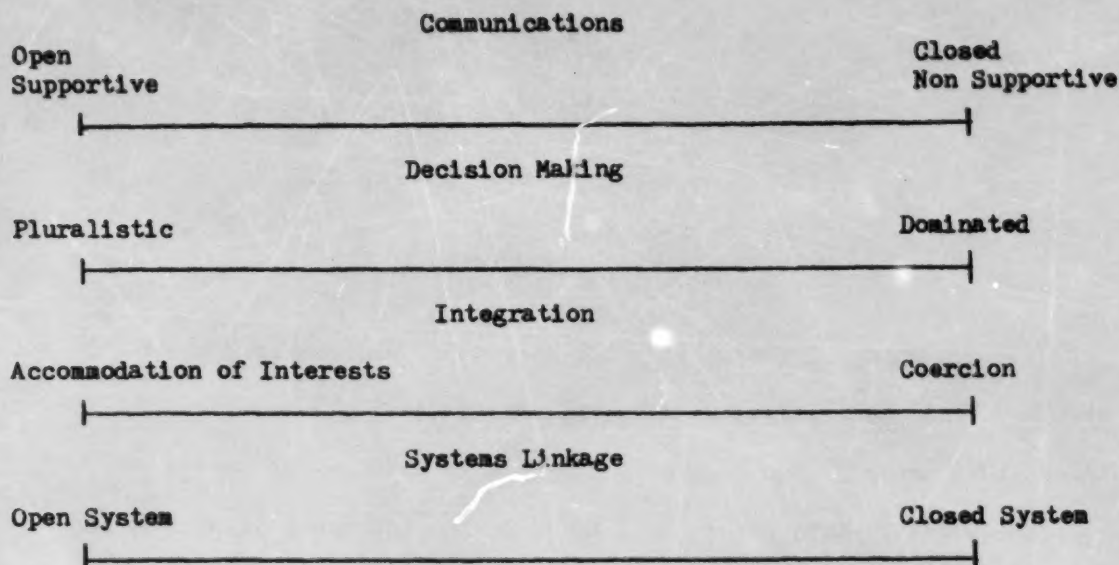


Figure 2.--Stasis-Change continuum.

Figure 2 characterizes the four processes on a stasis-change continuum. We will briefly examine the characteristics of each of these processes in light of this model.

A. Characteristics of the Communications Processes

The two aspects considered in examining the nature of communications are creating a climate for effective communications, and controlling the channels of communications.

Climate for Effective Communications

The characteristics of a climate for effective communications include: a feeling of trustworthy relationships which are consistent and dependable; a climate in which communications are unambiguous, i.e., the feelings or attitudes transmitted by nonverbal messages; a climate in which there is warmth, caring, liking, and respect; a climate in which differences of opinions are permitted and a real effort is made to understand true meanings.

As individuals in a collective agree on values, they interact more and communicate more effectively. Integration and communications reinforce each other; as individuals communicate more effectively, they are more likely to agree on common goals or overall values.

A necessary condition for valid communications appears to be the existence of sufficient mutual acceptance among members so that feelings about any issue or problem in the group can be expressed and accepted regardless of status.

Control of the Channels of Communication

Communication within the social system is concerned with the exchange of information among the various components or sub-units of the systems. The same power components manipulate the internal communications system as manipulate the external communications or system linkage. Control of the channels of communication is closely related to decision-making or power, status, and leadership.

Especially noteworthy in the nature of the processes examined is the control of communications channels which filters out any dissatisfaction which would indicate a need for change in the structure of the social system.

B. Source of Integration Processes

Olsen¹ defined integration as those processes through which "... the sub-units of an organization become bound together so that the organization acquires a wholeness greater than the sum of its parts."

In this paper, the characteristics of the integration processes are examined in terms of the source which bind the sub-units together into a broader system. Social systems which use coercion extensively to

maintain integration are stasis orientation. Coercion is not often used directly as a means of integration, but instead it is used to maintain boundaries, control communications, suppress conflict, and make decisions which in turn have the purpose of unifying the social system. A stasis oriented system may be highly integrated, but this integration is achieved by coercing its members to adapt to the system.

When accommodation of interests is used as the basis for integration, the system will have a change orientation. Norms are allowed to change to meet the changing needs of the members of the social system. An integrated system based on accommodation adapts to the changing needs of its members, rather than requiring the members to change or to segment their roles in order to participate in incongruent social systems.

A social system integrated around a power base cannot tolerate extensive disruption without being destroyed. The way in which a social system handles conflict may be one of the best indicators of the nature of the integrating process, whether it is around a coercive base or an accommodation base.

If the social mechanisms are those that encourage resolution of conflict rather than suppression, and if the group is oriented toward meeting the needs of its members as these change in response to the outside environment, then the system expands, differentiates, develops, and thus has an overall change orientation.

A social system whose integration is based on accommodation will not have to concern itself with high boundary maintenance development of solidarity and the use of social pressure to make the members conform. The focus of the system will be upon meeting the needs of the members rather than maintaining the structure.

Accommodation and power are used as opposite ends of the integration continuum in defining the nature of the processes. Accommodation is considered a contributing factor to the systems' ability to develop a change orientation, while coercion as a base for integration will be used as an indicator of a stasis orientation.

C. Nature of the System Linkage Process

Robin Williams defined system linkage as "... interdependence of parts of the total system so that what occurs in one part of society can ramify widely to all aspects of the system whether ramification is direct or not."

The more linkages a system has, the more it will be open to information from the outside environment. Boundary maintenance is the converse of system linkage; the greater the boundary maintenance activities, the greater the isolation and autonomy of the system.

There is a direct relationship between boundary maintenance and a stasis orientation. The more a system tries to resist changing, the more boundary maintenance activities it will carry on. The result is that an increased amount of the total energy of the system is expended for boundary maintenance.

Especially important in evaluating systems linkage is the way a system reacts to negative feedback information. An open or change oriented system is receptive to such information and will respond in a positive way by considering new and different means to meet the developing needs of its members. Stasis oriented systems, on the other hand, will try to block such information and prevent its members from participating

in other social systems which would produce negative feedback information, differing interests, or varying needs. Its perceptions of such feedback information will be less correctly perceived and often evaluated as threatening.

Our concern in examining the nature of the system linkage process is the extent of the system's activities to maintain its structure, and the degree of importance placed on such activities as compared to activities of adapting to outside environment or to the changing needs of its members.

Open system and closed system are used as the opposite ends of the system linkage continuum in identifying the nature of the systems linkage processes.

D. Nature of Decision-Making Processes

The major decisions made in a social system center around who will be allowed to participate in it, in what capacity, and how the rewards or the output of the system will be distributed. Many of these decision-making processes have already been discussed in boundary maintenance, integration, and communication processes.

Decision-making is involved in all of the processes in social change. The dimension used in examining the nature of the decision-making processes is dominated-pluralistic. Evidence indicates that dominated decision-making by an elite group inevitably results in a narrowing of the perception of the needs of the larger group. Decisions may at first consider the larger group, but in time decisions which protect the vested interests of the dominant group will predominate, along with a desire to maintain patterns of behavior which have proven to be effective means of solving problems in the past.

Pluralistic and dominated decision-making are used as the opposite ends of the power continuum in examining the nature of the processes; pluralistic decision-making is change oriented in orientation, and dominated is stasis oriented.

The characteristics of these four processes determine the change-stasis orientation of the social system. This orientation of the system is especially important in considering the way a system reacts to feedback information.

To review the basics of a systems model: there are inputs which include resources, these resources are not just raw resources, they also contain information as to the way these resources are to be used. This information based on interests, needs, and wants becomes the goals of the system.

Bertrand's² definition of a social system states that one of its prerequisites is ". . . two or more people interacting toward attaining a goal." Since much has been written about interactions, these few words carry many implications. From the standpoint of the systems model presented here, the particular implication in interaction is reciprocity. Each person in the social system contributes something in a relationship with others in the way of resources, knowledge, and feeling, and in return he expects to "secure satisfaction of an unsatisfied capacity" from the output stage.

Structure of the Social System

Man's interactions have centered around certain dominant interests. As these interests have been satisfied by particular ways of interacting, they have been remembered, repeated, and have become accepted or standardized within a society.

The process of attaining goals becomes standardized in human interaction; in other words, out of process a structure emerges. These acceptable ways are often expedient but may become rigid, fixed, or highly structured within a society.

This perspective does not see efficient social organization as a fixed entity which, once it is established, continues to function perpetually until something destroys it; rather it must be continually recreated through the ordering of interaction and the sharing of ideas. As a result, change oriented organizations are always undergoing modifications of change or growth. In short, social organizations exist in the constant process of becoming.

By the same reasoning, rigid or stasis systems must have some supports which function to maintain their structure. By their nature, certain processes fulfill this purpose, and these will be examined later.

Output of Goods and Services

The ability of the system to produce goods and services commensurate with the expectations of the participants determines the satisfaction or dissatisfaction of the role incumbents with the system, and ultimately whether they stay in the system or drop out of it, consequently, whether a system survives and grows or goes stagnant and disintegrates.

The Feedback Loop

The feedback loop is a very crucial part of any system. As presented in this social-system model, it is the information linkage between the capacity of the system to produce goods and services, the output, and the goals or aspirations of those who are contributing resources or participating as a part of the system, the input.

The relative balance between goals and output is expressed as feedback information in the feedback loop. In other words, it is a relative means/appetite or achievement/aspiration balance. Lerner⁴ expressed it in the formula:

$$\text{Satisfaction} = \frac{\text{Achievement}}{\text{Aspirations}}$$

Positive Feedback

As achievement approaches aspirations and relative balance is attained, satisfaction with the social system or positive feedback information is present in the social system.

Negative Feedback

Dissatisfaction with the social system, or negative feedback, is present when achievements fail to approach aspirations. This is true in any system, whether it is biological, cybernetic, or social. It is the feedback loop that is responsible for keeping the system regulated or in balance.

Balance implies keeping appetite and means within operating range of each other in order to avoid building frustrations and tensions to such a level that they cause the system to disintegrate. When means and appetite fail to keep within operating range of each other, tensions can rise to a point that causes a system to disintegrate. When this happens, the role incumbents reject the norms of the system, there is no patterning of actions, and this is as Durkheim³ defined it, a general state of anomie.

Equilibrium, or fascilization, on the other hand, is defined in the context of a social system which is trying to maintain established norms and to hold means constant. If means are held constant, aspirations

must be stabilized in order to keep them within the ability of the system to achieve them. The equilibrium state no doubt evolves as a system reaches an optimum achievement/aspiration balance and desires to maintain that balance in which there is minimum tension.

The difference between balance and static equilibrium may seem to be a fine point, but it is the crucial point of this paper. Dynamic equilibrium or balance is a change orientation and a static equilibrium is a stasis orientation.

A change orientation focuses on maintaining a moving or dynamic equilibrium that will keep tensions within operating range. It does not focus on minimum tensions or have as its goal a complete equation of means with appetites. Its energy-information input is directed toward finding new and different means of achieving changing goals. (Goals are allowed to change both in number and in kind.)

A stasis orientation, on the other hand, focuses on minimizing tensions within the system, and the energy-information resources are channeled in that direction. Once minimum tensions are reached, there is an attempt to maintain this state by freezing means and holding appetites constant. The major effort of the system is directed toward maintaining established norms, patterns, and relationships and stabilizing goals.

Change-Stasis Model

The change-stasis model in Figure 3 shows how a system with either change or stasis orientation handles energy-information input. A system having a stasis orientation will respond to input, including negative or positive feedback information, by using energy or resources in maintenance process--those processes which attempt to freeze norms and cut off any

information which would cause aspirations to grow or goals to change. Since a system is unable to close off its boundaries completely, information that enters the system causes aspirations to grow and goals to rise to a level greater than the present means for achieving them. This results in an increased amount of negative feedback information which must be countered with more energy used for maintenance processes and less used for need satisfaction. Ultimately, this results in a gradual dropout of members and a disintegration of the system, or a buildup of dissatisfaction which destroys the system.

The alternative is for the system to change from a stasis to a change orientation. This also has its dangers because as aspirations are no longer suppressed, they may grow rapidly beyond the ability of the means to respond to them.

A system having a change orientation will respond to input containing negative and positive feedback information by structural elaboration aimed at finding new alternatives or by refining the means for greater efficiency, which in turn will allow aspirations to increase. Most of the resources included in the input will be used in this direction.

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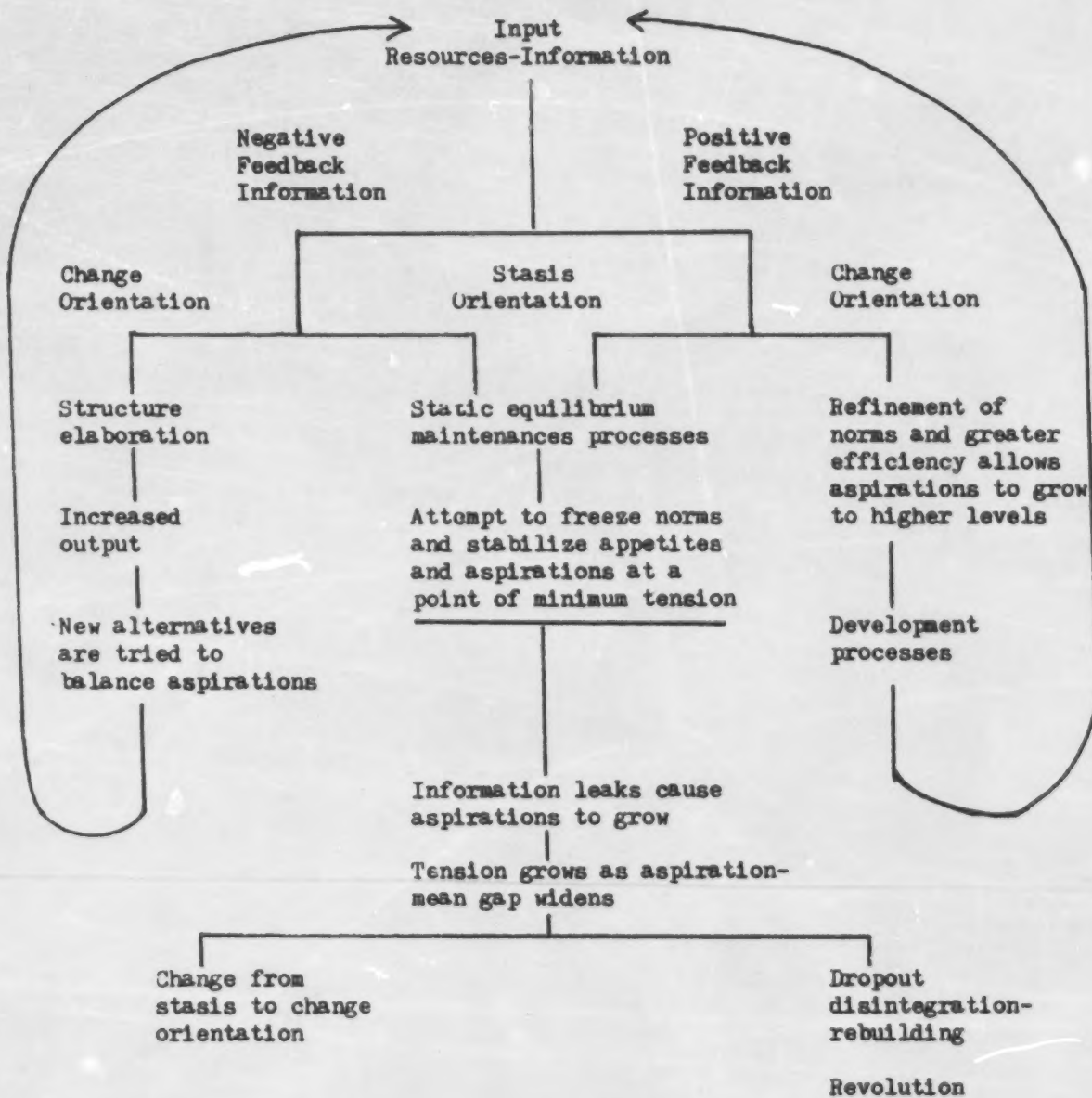


Figure 3.--Change-stasis model.

INTERORGANIZATIONAL NETWORKS: A CASE STUDY OF THE TRIANGLE J
COUNCIL OF GOVERNMENTS AND JOHNSTON COUNTY*

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INTRODUCTION

The focus of this study is to understand organizations, to describe what is essential in their forms and functions. It deals with problems that arise in any organization - conflict, bargaining, and problem-solving, as well as analyzing their effects and effectiveness.

According to Katz and Kahn (1966: 14-15), there are several key issues in understanding an organization or a social system. The first has to do with its location and identification. In this we must ask such questions as what behavior belongs to the organization and what behavior lies outside it? Who are the individuals to be studied, and what segments of their behavior are to be included?

The second important matter in understanding an organization is to regard it as the embodiment of the purposes of its designers, leaders, or members. The stated purposes of an organization as given by its by-laws or constitution can be misleading. Such statements may rationalize, idealize, or even distort the true aspects of the organization's functions. Even its leaders and members may not always be in agreement. Therefore, it is crucial to begin with the input, output, and functioning of the organization as a system, and not with the rational purposes of its leaders.

TJCOG and Johnston County

The data for this study were collected in conjunction with a North Carolina Agricultural Research Service Project entitled "Social Networks and Rural Development" (NCARS, Project number 15484). The data relate to activities concerning the proposed withdrawal from the Triangle J Council of Governments (TJCOG) by Johnston County.

The general purpose of the study is to inquire into the inter-organizational processes that lead to conflict resolution and decision-making. An organization denotes both a structure and a

* Paper presented at the annual meeting of the Southern Association of Agricultural Workers, Rural Sociology section, Orlando, Florida, February 7-10, 1982. This paper contributes to NCARS Project 15484, "Social Networks and Rural Development."

process. As a structure, an organization is any stable pattern of interrelations among component parts which forms a whole having characteristics not manifest in separate parts. As a process, an organization is used to refer to the manner in which these entities are formed (Gould & Kolb, 1964: 661).

The TJCOG cannot be "defined" as a government. It has no authority to pass laws, levy taxes, or any other activities associated with government. It does, however, act as a forum for discussion of problems, a planning entity, and as a place for exchange of ideas and information (TJCOG: 2).

The role played by a COG is that of liaison. The Council of Governments as a planning region represents municipal and county government, and actually is an association of local governments. There are eighteen such planning regions in North Carolina, each designated by a letter (A - R). TJCOG has thirty-six member governments (thirty municipal and six county), each having one delegate. The six counties consisting of thirty municipality memberships contain three in Orange County, one in Durham County, twelve in Wake County, three in Chatham County, two in Lee County and nine in Johnston County.

The TJCOG has some unique problems which are not present in all of the other regions. Triangle J is a mixture of both urban and non-urban counties. Two of its counties - Wake and Durham - are heavily populated and highly industrialized and commercialized. Wake County, in fact, is the home of the state's capital. Orange County is quite populated and is a center of academic research, as, for that matter, are Durham and Wake Counties. The other three counties that comprise Triangle J - Lee, Chatham, and Johnston - are less populated, less commercialized and industrialized and more agricultural. They have special concerns and problems that the urban counties do not have, and vice-versa.

Because of these differential characteristics of the counties, conflicts sometimes arise between them. For example, some of Johnston County's county and civic leaders felt that the TJCOG could not devote enough time to their special concerns. The feeling that they could plan and instigate developments in Johnston County better than the TJCOG was definitely a source of controversy.

Johnston County, a primarily agricultural county, is located in central North Carolina. Smithfield is its county seat. All nine of Johnston County's towns are members of the TJCOG.

By virtue of its size and number of incorporated municipalities, Johnston County constitutes a large part of the COG. Of the thirty-six member governments representing the people of Region J, ten are from Johnston County. This represents 28% of the Council's voting

membership, the second largest block of votes in the entire TJCOG (next to Wake County).

THEORETICAL ORIENTATION

The primary theoretical orientation for this study is based upon the systems approach as outlined by Bates and Harvey (1975).

System theory maintains that all parts of a social system are joined to each other, so that events occurring in one part of the system through the structure of the system, will affect events occurring in other parts. It contends that such effects are not felt equally throughout the entire system by all the parts, but are diminished as they proceed through chains of relationships from their point of origin to the most distant points in the system. An event occurring in one part of the system has its strongest and immediate effects upon the other parts of the system closest to the point of origin; but eventually some minute effect will be felt in the most distant part of the system (Bates & Harvey, 1975: 213-14).

Interorganizational decision-making deals with multiple or joint decision problems. There is often a conflict of interest between parties who discover that they have a joint decision problem. Each may prefer different possible outcomes. It is important to intervene in the joint decision situation to reduce existing conflict.

The other major assumption of system theory is that there is a tendency toward achieving balance, consistency, or integration within the system. System theorists describe equilibrium in terms of systems moving toward a point at which any input introduced to them from the outside is absorbed as part of the routine operation of the system. If new energy is not introduced, the system will eventually disintegrate into a state of entropy.

Systems therefore have a tendency to seek the lowest point of energy expenditure. Strain and stress take energy, so the maintenance of a system in a state of strain and stress takes more energy than when the strain and stress are reduced.

Therefore, according to this theory, the conflict between the TJCOG and Johnston County not only affects these two groups, but all of the other groups that comprise the entire COG. The stress and strain of this controversy affects the whole COG so that, structurally, it is not in its best form. The ideal way to have the TJCOG functioning most efficiently would be to reduce the conflict.

RESEARCH PROCEDURES

Respondents from Johnston County had been dissatisfied before with the TJCOG. They had threatened to withdraw from the COG on



FIGURE 1: The Administration of the Triangle J Council of Governments.

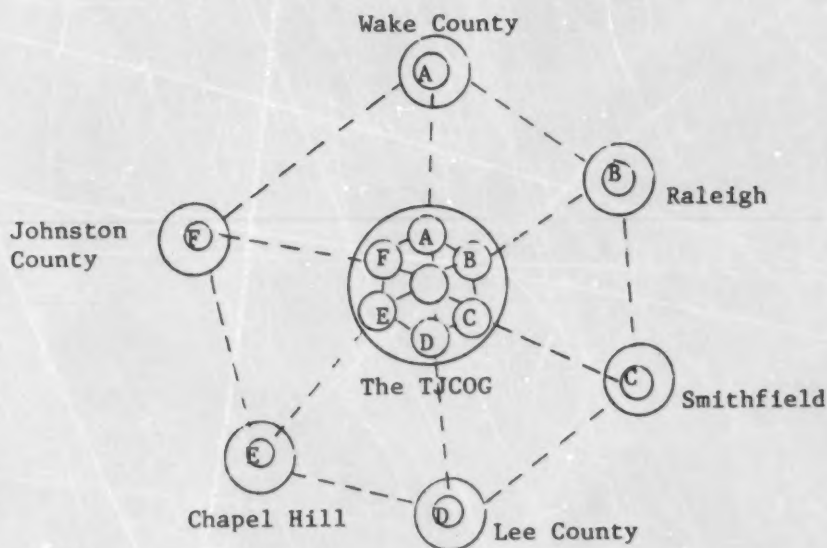


FIGURE 2: The Organization of the Triangle J Council of Governments

This figure is an abbreviated representation of the six county and thirty municipal governments in the TJCOG's structure.

previous occasions, but had never actually carried out the threat.

As a planning agency, forum for discussion, and instigator of developmental events, TJCOG attempts to carry these features out to their fullest. Each county is charged an annual dues fee based on the individual county's population and tax base. This dues fee entitles each county to many of TJCOG's developmental programs.

Johnston County felt that they were not receiving their money's worth from their dues fee. In today's tight economic climate, respondents felt that they could provide the necessary programs supplied by the TJCOG, for substantially less money. This was the main issue surrounding the storm of controversy between Johnston County and the TJCOG. (One point of clarification - it is only Johnston County that wished to withdraw, and not the county's individual municipalities. They continue to remain members of the TJCOG.)

The case study relating to Johnston County's withdrawal from the TJCOG requires that methods be used to describe and measure the actual situation. In order to meet this requirement, an interview schedule was developed. This schedule consisted of open-ended questions which sought information concerning such issues as influence, problem-solving, and developmental programs which led to the controversy in Johnston County.

The schedule was personally administered to various key figures involved in the Johnston County development. These key figures included several Johnston County Commissioners, TJCOG delegates (from Johnston County as well as from surrounding counties), members of the TJCOG Executive Committee, TJCOG administrative staff members, a county manager, and a mayor from a municipality in Johnston County. These particular individuals were selected because they were knowledgeable about the controversial events.

A total of eleven persons were interviewed individually in an interview lasting approximately one hour. This data was combined with information received by attending monthly TJCOG meetings, informal interviews with the TJCOG administrative staff, attendance at various Johnston County Commissioner's meetings and going through the TJCOG library researching old newspaper clippings, manuscripts concerning various developments, and minutes of past meetings. All of the above provided the data for this study.

RESULTS

At present, Johnston County has remained withdrawn from the TJCOG. Since its withdrawal, negotiations have been going on for

the past several months between the TJCOG and Johnston County, in an effort to persuade Johnston County to rejoin the COG. Both sides present arguments for the respective views.

Members of the TJCOG believe that they provide many benefits for the people of Johnston County - mainly consisting of a variety of developmental programs. They also believe that these benefits and programs far outweigh the cost of Johnston County's annual dues fee.

Even though the COG consists of a diverse group of counties, COG representatives believe that they have done a fair and adequate job in relating to the different needs of each individual county. The TJCOG also believes that its contribution is a vital aspect in helping Johnston County anticipate and plan for long term population and industrial expansion, as well as for the problems that could ensue from both.

Members of Johnston County see things a bit differently. They feel that their annual dues fee far outweighs the benefits they receive by being a member of the TJCOG. The Johnston County representatives interviewed expressed concern that the COG had spread themselves too thin; that they have taken on too many responsibilities that they cannot adequately handle. Some examples given by those interviewed were that there were too many programs that the TJCOG instigated (and had unsuccessfully carried out), that the TJCOG had too large and diverse an area to serve satisfactorily, and that there was too much bureaucratic mismanagement and waste.

Many interviewed from Johnston County also believe that they have the resources and capability to handle their own problems - both at present and in the future. They also believe that the cost factor would be much less than it would if they remained a member of the TJCOG.

INTERORGANIZATIONAL LINKAGES

The beginning of this paper explained that the issues of conflict resolution, bargaining, and problem-solving would be examined. The primary conflict here is the issue of Johnston County's withdrawal from the TJCOG. Several smaller conflicts have led up to this major one - unhappiness with the amount of dues fee, dissatisfaction with the job TJCOG has done, and unhappiness in belonging to such a diverse group of counties that make up Triangle J - both urban and rural, industrialized and agricultural, wealthy and not so wealthy.

In order to reach some sort of decision which is agreeable to both sides, problem solving techniques must be employed. This may also involve a bit of bargaining on both sides - as both sides must

usually give a little as well as take a little to arrive at a mutual decision.

The two parties associated in this conflict worked closely together. The majority of people interviewed attended joint meetings and sessions to discuss the controversy. Members of each group would present their group's requests and recommendations to members of the other group.

All of the respondents suggested several ways which they felt might help to once again link the two parties. These included:

(1) Stronger commitment by board of delegates and government. Many respondents felt that the elected representatives did not take their positions seriously. Many did not read the material sent out by the TJCOG staff concerning recent developments and problems. Many who attended the monthly meetings had little to say and did not attempt to involve themselves. Respondents felt that they should make more of an effort to involve themselves and participate in the decisions and special concerns.

(2) More funding (both federal and private). Recent federal budget cuts have affected some of TJCOG's developmental programs. Many respondents felt that if they could receive more federal funding, and if certain private organizations would contribute, TJCOG could become a much more effective and beneficial organization.

(3) Have more consultants and fewer administrators dealing with problems. Many Johnston County respondents felt that if specialists were called in to deal with certain problems, rather than often using TJCOG staff members (many of whom were not especially familiar with all types of problems), TJCOG would be more effective. It would serve to eliminate administrative waste - both time and money.

(4) Delete the size of the TJCOG staff. Several Johnston County respondents felt that there were too many people trying to do the same job while being paid handsome salaries. Reduction of such bureaucratic waste would, they felt, both reduce large annual dues fees and increase TJCOG's effectiveness.

(5) Having more elected officials actively participating in committees, work sessions, etc. This related back to Number 1 where many respondents felt that elected representatives should make a stronger commitment to their positions. If more would actively involve themselves in other aspects of the TJCOG, more would be clearer as to what the TJCOG actually does for their individual counties, as well as increasing effectiveness and rapport.

(6) Reduce the amount of bureaucratic waste currently going on in the TJCOG's offices. This has been partially discussed in Numbers 3 and 4. This makes annual dues fees skyrocket and makes the TJCOG less efficient and effective.

This study demonstrates the importance of conflict and problem-solving in daily organizational life. One of the major components of conflict resolution is the "management, control, or resolution of conflict" (Boulding: 142). This component deals with ways and techniques in which conflict can be resolved. Organizations tend to prevent conflict by becoming destructive of the parties involved. Organizations also use a technique where they will attempt to placate parties by offering them some form of payment, as an inducement to stop the conflict.

Problem solving pertains to the methods of conflict resolution used to find ways to meet goals or overcome obstacles in a manner which is acceptable to all parties involved. It also attempts to accentuate the positive, by highlighting the commonly held views of the parties. In addition, it strives to show fundamental points of differences, rather than the determination of who is right, who is wrong, who wins, or who loses. Through sharing and communicating, the problem is mutually defined. The participants consider the full range of alternatives, and similarities in views become emphasized (Blake, Shepard, & Mouton, 1964: 90-93). Through this process, the causes of doubt and misunderstanding that underlie the conflict become evident.

In the case of Johnston County and the TJCOG, however, thus far a mutually acceptable decision has not been reached. Why did this system fail? There are several possibilities. Perhaps adequate attention was not made to bargaining and problem-solving techniques. Any time these methods are employed, both parties must get a share of the "winnings." If one party feels the other is receiving an unfair advantage of "winnings," they are unlikely to reach an acceptable compromise. Another possibility is that the ultimate goal of each party is so different that no agreeable solution can be reached. In this instance, problem-solving can be more difficult.

SUMMARY

Interorganizational research has largely been ignored in the social sciences. This study focuses on interorganizational processes that lead to conflict-resolution and decision-making. It is a case study concentrating on the withdrawal of Johnston County from the TJCOG, as well as events that led up to it. Data for the study were collected by means of an interview schedule with persons knowledgeable about the events. The processes of bargaining and problem-solving were examined as a means of ending this conflict. Thus far, an agreeable solution has not been reached.

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POVERTY, RACE, AND ATTITUDES
OF RURAL MISSISSIPPIANS

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It is widely believed by "culture of poverty" advocates that the poor are most likely to have certain common traits irrespective of race and residence. More to the point, it is assumed in the concept of "culture of poverty" that poverty supersedes basic ethnic and cultural orientations as a dominant determinant of attitudes and values. This view once was so influential that, when approaching poverty problems, many people unhesitatingly entertained a nineteenth century premise that the poor is poor through their own lack of ability and self-perpetuation. Such a notion, however, remains controversial and is viewed by critics largely unsubstantiated.

The purposes of this study are twofold. First, it is to test the validity of a notion of the "culture of poverty" as it relates to attitude and value traits. The second is to provide some empirical evidence that ethnicity is likely to be more significant and powerful than poverty as an attitude and value determinant in rural areas of the South. At the outset, however, it seems appropriate to admit that this study is of very limited kind in scope and data. But it intends to supplement some recent empirical findings which critically questioned the validity of some poverty culture traits (Ireland et al., 1969; Kutner, 1975).

Review of Lewis' "Culture of Poverty"

Social scientists often use the concept of culture as a frame of reference to study and understand the ways in which social conditions lead to differences in group attitudes and behavior. One of them is anthropologist Oscar Lewis who had an intensive study of the poor and consequently developed the concept of the "culture of poverty." One of his major notions of the "culture of poverty" implies that a virtually exclusive and self-perpetuating subculture exists among the poor regardless of race and place of residence. According to Lewis (1966:21),

Once it comes into existence it tends to perpetuate itself from generation to generation because of its effect on the children. By the time slum children are age six or seven they have usually absorbed the basic values and attitudes of their subculture and are not psychologically geared to take full advantage of changing conditions or increased opportunities which may occur in their lifetime.

Lewis (1966:19) further noted that "wherever it occurs, its practitioners exhibit remarkable similarity in the structure of their families, in interpersonal relations, in spending habits, in their value systems

and in their orientation in time."

His extensive studies of poverty in various countries have also identified some seventy traits of poverty culture. And one of his four major dimensions of the trait system is of the attitudes, values and character structure of the individual. In this regard, he (1966:23) succinctly argued that "the individual who grows up in this culture has a strong feeling of fatalism, helplessness, dependence, and inferiority." In addition, Lewis also described social alienation and cynicism as outstanding characteristics of the poor (1964:154; 1965:xlvi). Accordingly, it seems reasonable to assume that such negative feelings as fatalism, powerlessness, helplessness, dependence, alienation, and inferiority are more likely to be prevalent among those in poverty regardless of ethnicity and place of residence than among any other types of population group.

One critical question with regard to the "culture of poverty" still concerns its validity. Indeed, many critics have raised serious doubts regarding Lewis' concepts and methods as they related to the theory of the "culture of poverty." For example, Leacock (1971) was very critical of Lewis' use of the culture concept in such a way as to make it certain that the poor are totally responsible themselves for their destitution. Valentine (1971) critically pointed out the inadequacy of Lewis' methods of research and analysis in some important aspects associated with the culture of poverty. Leeds (1971) also commented that "the concept of the culture of poverty poses a number of problems.... These issues are theoretical-conceptual, methodological, and ethical-civic." Rossi and Blum (1968) pointed out the importance of badly needed systematic, empirical evaluation of Lewis' poverty characteristics.

Empirical studies carried out up to date are not sufficiently enough for either supporting or disparaging Lewis's theory of the "culture of poverty," but certainly enough to encourage further empirical studies to test and discredit some notions explicit in the theory. Irelan et al. (1969), for example, found little difference between the recipients and non-recipients of public assistance among their Spanish-speaking sample, and suggested that "the culture of poverty concept...may have limited general utility and should be reexamined" (412). They further suggested, however, that future studies need to include a control group of non-poor "to tell any similarities reflect a culture common to the poor or one more broadly based in individual societies" (1969:413).

Kutner's empirical study (1975) focused on any significant differences between poor and non-poor in each of six ethnic/residence population groups (Spanish, black, and white/metro and non-metro). Her findings also revealed little empirical evidence supporting Lewis' poverty traits. In contrast to Lewis' view, her study claims that the so-called poverty traits are more common to Spanish-speaking people, regardless of income level, and that among black and white population groups, place of residence (urban and rural) appears to be important variable affecting their attitudes and values. Based upon her findings, Kutner (1975:202) speculated:

...for the black population, the metropolitan setting

is associated with more distinctive life-ways among the poor. For the white population, on the other hand, the non-metropolitan setting may be associated with more distinctive life-ways among the poor.

This implies that unlike non-poor urban black people, non-poor rural black families are most likely to feel disadvantaged as poor black families are, while non-poor rural whites are somewhat different from poor rural whites in their attitudes and behavior.

Hypotheses

On the basis of the above literature review, the following hypotheses are made to be tested for this study.

1. Lewis' notion explicit in the "culture of poverty" as related to attitude and value dimension - poverty overrides basic ethnic orientation as a dominant determinant - is not likely to be fully substantiated.
2. In rural setting, certain negative attitude and value traits - a strong feeling of fatalism, helplessness, dependence, alienation, and inferiority - are more distinctively associated with ethnicity than poverty.
3. As suggested by Kutner, in rural setting poor and non-poor white population groups are more likely to part from each other than those of black population in their attitudinal traits.

Source of Data

Data used here to test the above mentioned hypotheses were collected in Mississippi during the summer of 1981 as part of the regionwide questionnaire survey conducted for a regional research project called "The Isolation of Factors Related to Levels and Patterns of Living in the Rural South" (RR-1, USDA). The RR-1 sample procedure was based on ten state samples of at least 240 respondents each. The multistage sampling procedure includes three sample counties within each state which may be described as racially-mixed, rural counties with low median family incomes. Within these three counties of each state, sample sizes were assigned in proportion to each sample county's population (for detailed information, see Training Manual of 1980 Regional Research Project). Based upon this sampling procedure, Leake, Noxubee, and Quitman counties were selected for the survey in Mississippi, and 96, 72, and 80 respondents were selected from the three counties respectively, 248 in total sample size.

The three counties sampled in Mississippi are racially-mixed and poor with transfer payments as the major income source. For example, the per capita incomes in 1979 for Leake, Noxubee, and Quitman counties were \$5,105, \$4,924, and \$4,515 respectively, while the per capita income average of Mississippi was \$6,200 (Bureau of Economic Analysis, Personal Income by

by Major Sources, 1974-1979, April, 1981). In these counties, trained interviewers conducted interviews with the head of selected families based upon the regionally adopted sampling procedures, and collected data from 248 respondents.

The questionnaire consists of five sections: 1. demographic information; 2. community and life satisfaction; 3. availability, accessibility, client satisfaction and utilization of welfare services; 4. values, attitudes and beliefs; and 5. consumer behavior and personal income. Of these data, family income, race of respondents, and eighteen items of values, attitudes and beliefs questions are selected for this study.

Types of Respondent Groups

The distinction between poor and non-poor for this study is made on the basis of the methods developed by Mollie Orshansky and her associates in the Social Security Administration. Accordingly, the poverty lines are drawn with annual family incomes by its pre-tax, post-transfer cash income for the year, excluding capital gains or losses (Orshansky, 1965: 3-29). Since poor people spend about one third of their income on food, the minimum food budgets calculated by Department of Agriculture for various sizes of family are multiplied by three to obtain the minimum income or poverty line for families in different locations. Poverty income table is used in the survey (see Table I). Looking down the column for family size, the interviewer read the corresponding poverty threshold income figure to the respondent in the following way: "Did you earn more than (figure) during 1980?"¹ Subsequently, families characterized as "poor" in this study are those whose answer was "no" and families characterized as "non-poor" are those whose answer was "yes." Resulting distribution of the respondents in terms of poverty status and race are shown in Table II.

Items Indicating Attitudinal Traits

All eighteen attitudinal items selected here to measure a strong feeling of fatalism, helplessness, alienation, dependence, powerlessness, and inferiority are of the Likert-type allowing one of five responses: Strongly Agree; Agree; Undecided; Disagree; and Strongly Disagree. They are all viewed as somehow reflecting and indicating, directly or indirectly, some of attitudinal traits of poverty culture identified by Lewis. For the analytical purpose, however, these items are categorized into several specific attitudinal traits: fatalism, helplessness, inferiority, dependence, alienation, and value of work.

1. To determine poverty status, we used information about family's annual income, the number of persons in the household who depend on the income as their sole means of support, and farm/nonfarm occupation of family head.

Attitudinal items indicating these particular traits are as follows:

Fatalism

1. Making plans only brings unhappiness because the plans are hard to fulfill.
2. With things as they are today a person ought to think only about the present and not worry about what is going to happen tomorrow.
3. The secret of happiness is not expecting too much out of life and being content with what comes your way.
4. It is important to make plans for one's life and not just expect what comes.*

Helplessness

5. Most people try to use you.
6. I certainly feel useless at times.
7. Some people can get by with almost anything while others take the rap for any little misdeed.

Inferiority

8. I wish I could have more respect for myself.
9. People here give you a bad name if you insist on being different.
10. I am able to do things as well as other people.*

Dependence

11. You must spend lots of money to be accepted in this community.
12. When you are in trouble only a relative can be depended upon to help you.

Alienation

13. Real friends are hard to find in this community.
14. No one seems to care how this community looks.
15. I feel welcome going to public activities in this community.*

Value of Work

16. Work is something I do in order to earn some money.
17. If I had enough money to support myself and my family, I would never work.
18. Work is proof of an individual's worth to himself.*

In fact, no particular attitude toward work has been specifically discussed by Lewis as a poverty trait. It is implied, however, in his notions that the culture of poverty exists in a society which values thrift and upward mobility highly (Lewis, 1966:21), and that a distinctive characteristic of a poverty culture is its repugnance to the larger culture's values (Lewis, 1964:154; 1966:23). Thus, it seems reasonable to expect that certain negative attitudes toward work, if any, may be more pervasive among the poor than the non-poor.

*Negative responses to the items indicate a feeling of these negative attitudinal traits.

Methods

In order to analyze, measure, and compare attitudinal characteristics of respondent groups, responses of the people to all the eighteen items were converted into the form of a five-point scale. This scale allows us to give 5 points to each "strongly agree" response, 4 to each "agree" response, 3 to each "undecided" response, 2 to each "disagree" response, and 1 to each "strongly disagree" response to the negatively worded statement items. And, for the positively worded statement items (only 4 out of the 18 items), points given to each of the five responses are reversed in order to establish consistent patterns of scoring on the negative-positive attitudinal continuum scale. Subsequently, mean scores of various respondent groups studied here for each item are calculated, excluding "DK/NA" responses.

This method provides summary statistics which indicate the extent and direction of attitudinal traits in terms of the negative and positive continuum. In other words, mean scores closer to 5.0 indicate extremely negative attitudes or feeling of fatalism, helplessness, dependence, alienation, inferiority, and lack of interest in working, while mean scores closer to 1.0 mean extremely positive attitudes. Meanwhile, the mean score of 3.0 is regarded here as a dividing point between the negative and positive attitudes. Some critics may point out that a mean score of 3.0 could be achieved either by having an equal distribution between "strongly agree" and "strongly disagree" responses, or by having all respondents say "undecided." However, a careful item-analysis and pre-testing assures that the probability of such occurrences are considerably reduced for the data.

For statistical tests of significance in differences of attitudes and values between various respondent groups, this study uses an unweighted-means analysis for 2 x 2 factorial analysis of variance with unequal cell frequencies (Winer, 1971:445-449) and the Newman-Keuls Test (Kirk, 1968:93) at probability levels of .05 and .01.

Empirical Findings

In the analysis that follows, this study first examines how substantial is Lewis' notion of the poverty culture as it relates to the so-called poverty traits of attitude and value systems. For this, we will analyze the data to test the first hypothesis - poverty overrides basic ethnic orientation as an attitude and value determinant - and others. If this notion is true, then we could expect from the data that the poor and the non-poor would manifest significant differences on more attitudinal items investigated here than the black and the white. As Table III indicates, however, an examination of the data reveals just an opposite pattern: the black and the white samples differ significantly from each other on 13 out of the 18 items (72.2%), while the poor and the non-poor only on 5 items (27.8%).

Another approach to this question is to compare attitudinal differences

between poor black and poor white. If there is substantial evidence for Lewis' assumption that the poor, regardless of ethnicity, are likely to have certain common attitudinal and value traits, we should expect to see from the data that the poor blacks and the poor whites in rural setting have few differences in their attitudes and values identified by Lewis as poverty traits. However, Table IV clearly shows that the black and white poor samples differ significantly from each other on 11 out of 18 selected items (61.1%) for this study.

These findings appear to be sufficient to support the hypothesis that Lewis' notion explicit in the culture of poverty as related to attitudinal traits that poverty overrides basic ethnic orientation as a dominant attitude and value determinant is not likely to be fully substantiated. Certainly, no one would doubt that prolonged conditions of poverty, wherever it occurs, affects persons' perception, self-evaluation as well as their attitudes and values. The limited data analyzed here do, however, provide sufficient evidence to assume that poverty is not necessarily the dominant determinant of attitudes and values of the people of all cultures: that is, other factors than poverty could be more significantly influential in shaping and maintaining certain attitudes and values varying from one culture to other and from one group to other.

The second hypothesis is concerned with a comparison between ethnicity and poverty in terms of their association with certain negative attitudinal traits assumed by Lewis to be common among the poor. In this respect, we are primarily interested in finding some empirical reasons to believe that the extent of negativism in a wider variety of the attitudinal traits is likely to be stronger and more pervasive among the blacks than among the poor in rural South. As a close examination of Table V indicates, the blacks show negativism (more than 3.0) on 10 (55.6%) out of the 18 items, while the poor responded negatively on only 8 of them (44.4%). Furthermore, as shown in Table V, on the average the black samples as a whole are expressing slightly deeper negative feelings, than the poor, with 8 out of the ten items to which the former made negative responses. In contrast, the poor are manifesting a stronger negativism, as compared with the blacks, only on Item 10 (3.36 vs. 2.86) which concerns with self-evaluation in terms of being capable, competent, successful, and worthy. In fact, such a low self-esteem among the poor samples as a whole is entirely due to a result of the poor white's negative responses to Item 10 that says "I am able to do things as well as other people."

It is somewhat interesting to see that in this particular case the poor whites alone have a distinctively negative self-evaluation (3.74), as compared with the poor blacks, the non-poor blacks and the non-poor whites (2.97, 2.58 and 2.22 respectively which all denote positive elements). It is as if they alone dealt with the struggle - almost always a losing struggle - against the impersonal, pitiless forces of their natural and social environment. Aside from this particular incidence, it is evident, as shown in Table IV, that almost all attitudinal traits examined here appear to be slightly deeper and more pervasive among blacks than among the poor in rural environment, supporting the second hypothesis.

The third hypothesis is based on Kutner's suggestion (1975:202) that in rural setting the so-called attitudinal traits of poverty are much more common to blacks in general, regardless of socioeconomic status, while these traits are somewhat distinctively associated with poor whites alone. In fact, the data collected for this study from rural counties of Mississippi appear to strongly support Kutner's findings.

As indicated in Table VI, a comparison between the poor and non-poor blacks in terms of their responses points out no significant differences for any of the 18 items. In contrast, the poor and non-poor whites show significant differences on 8 of them (44.4%). These negative attitudes among the poor whites are most likely to be related to a feeling of fatalism, helplessness, and inferiority to somewhat mild extent. However, a comparison between the poor and non-poor whites in terms of their responses indicates that the former differs distinctively from the latter as being considerably fatalistic, purposeless, highly suspicious of prevailing legal and social norms, socially alienated, and, above all, with a low self-esteem. However, it is equally evident from the data that the rural blacks in general have slightly deeper feelings of fatalism, helplessness, purposelessness, dependence, and alienation as compared with the rural poor whites.

In any way, the data examined here again present strong evidence to support the third hypothesis - in rural setting poor and non-poor white population groups are more likely to part from each other than those of black population in their attitudinal traits.

Summary and Conclusions

This study challenged, with empirical data, the validity of a Lewis' notion of the poverty culture related to the so-called attitude and value traits assumed to be distinctively common among the poor, regardless of ethnicity and place of residence. To this end, it developed, tested, and provided somewhat significant empirical findings to support the three hypotheses, which are in essence proposed here to challenge the Lewis' notion.

Although the strength of the evidence may be questioned by some critics and vary depending upon which hypothesis is under consideration, mainly due to the limited nature of the data by not including in analysis some potentially important variables such as education, welfare dependency, poverty cycles of family, or urban setting, the findings do support the underlying assumption of the study that among the poor of different cultural and ethnic groups exist important variations in attitudes and values that are attributable to factors other than poverty.

Despite Lewis' claim for the dominant and uniform role of poverty in forming, conditioning, and perpetuating certain attitudes, values, and character structure of the individual in all cultures, it is evident from the data and from some empirical findings of Irelan et al. (1969) and Kutner (1975) that certain attitudinal traits of "poverty culture" are likely to be more common to the Spanish-speaking people than to American

blacks and whites, and are likely to be more common to the rural American blacks in general than the rural whites, regardless of their income level. In sum, it is strikingly clear that such important differences occur in attitudes as well as many aspects of total life outlook of the poor with different cultural and ethnic backgrounds.

As pointed out earlier, for example, the rural poor white samples are distinctive in terms of their low self-esteem. In fact, they appear most likely to accept the current conditions of destitution as an almost inescapable way of life with a fatalistic view of self-image that they are incapable of controlling their futures and unable to do things as well as other people. But, quite unlike the rural poor whites, the rural poor blacks appear not likely to share such a low self-esteem.

Instead, rural poor blacks in particular and rural blacks in general are most likely to share somewhat unique life outlook and certain specific attitudes. In other words, while having relatively positive attitudes toward themselves as being capable and competent to do things as well as other people, in spite of their conditions of prolonged economic deprivation, they are most likely to have a relatively deep fatalistic outlook of the world in which they live, a low trust and faith in as well as a strong suspicion toward other people except immediate family members and close relatives, a feeling of social alienation, and, above all, a low degree of confidence in the legal and social norms by which they have to interact with others.

In sum, it seems that many rural blacks in Mississippi are still likely to accept their struggle for life, as if their life is largely overcasted by the fate of Sisyphus who, according to Homeric legend, had been condemned by the gods forever to exert his entire being toward accomplishing nothing. Such prevailing attitudes among the rural blacks in Mississippi seem to be associated with influences not only of poverty cycles but, to large extent, of many legacies of their past, but much painful, experiences: namely, slavery system, racism, discrimination, injustice and others.

Although the data are very limited in nature, this study comes to agree with a view that formation, change, and perpetuation of certain attitudes and values among the poor of all cultures could be in varying degrees influenced not only by poverty, but also by cultural, historical, and other social variables.

Table I. Poverty Income Thresholds for Families

Family Size	Farm Income	Non-farm Income
1	\$3250	\$3790
2	4280	5010
3	5310	6230
4	6340	7450
5	7370	8670
6	8400	9890
Over 6 members add:	\$1030 per person	\$1220

Table II. Distribution of Respondent Groups

Poverty Status	Black (N)	White (N)	Total
Poor (N)	68	71	139
Non-poor (N)	28	78	106
Total	96	149	245*

*Among the 248 respondents, there were three indian families which are excluded from this analysis.

Table III. Comparison of Frequencies of Significant Differences between Black and White, and between Poor and Non-poor on the eighteen Selected Items

Item	Poor	Non-poor		Black	White	
	Mean	Scores	F***	Mean	Scores	F
Fatalism						
Item 1	3.34	2.62	12.9**	3.59	2.73	26.8**
Item 2	3.53	2.92	9.1**	3.74	2.97	23.2**
Item 3	3.57	3.41	.9	3.62	3.42	1.3
Item 4	2.39	2.07	3.1	2.33	2.19	1.4
Helplessness						
Item 5	2.96	2.67	.0	3.46	2.44	50.8**
Item 6	3.53	2.81	15.3**	3.45	3.07	3.3
Item 7	3.78	3.50	.5	3.90	3.51	10.5**
Inferiority						
Item 8	2.79	2.39	2.0	2.97	2.39	19.7**
Item 9	2.91	2.88	.0	3.40	2.57	50.8**
Item 10	3.36	2.32	39.4**	2.86	2.94	1.8
Dependence						
Item 11	2.28	2.11	.1	2.58	1.97	28.6**
Item 12	2.70	2.33	.9	3.06	2.21	41.6**
Alienation						
Item 13	3.13	2.55	5.1*	3.50	2.48	39.4**
Item 14	2.57	2.27	1.9	2.96	2.11	37.8**
Item 15	2.21	2.16	.2	2.33	2.10	6.0*
Value of Work						
Item 16	3.68	3.55	.7	3.87	3.34	7.4*
Item 17	2.38	2.34	.2	2.74	2.12	21.0**
Item 18	2.11	1.96	2.0	2.16	1.97	3.1
Freq. of Sig. of Diff.			5			13

*Significant at .05

**Significant at .01

***To test significance of difference, F scores are obtained by using an unweighted -means analysis for a 2 x 2 factorial analysis of variance with unequal cell freq.

Table IV. Frequencies of Significant Differences on the 18 Selected Items between Poor Black and Poor White

Item	Poor Black	Poor White	Diff.
	Mean	Scores	
Fatalism			
Item 1	3.62	3.07	.55*
Item 2	3.82	3.26	.56*
Item 3	3.68	3.46	.22
Item 4	2.31	2.46	-.15
Helplessness			
Item 5	3.43	2.51	.92*
Item 6	3.57	3.49	.08
Item 7	3.81	3.76	.05
Inferiority			
Item 8	2.93	2.66	.27
Item 9	3.38	2.46	.92*
Item 10	2.97	3.74	-.77*
Dependence			
Item 11	2.59	1.99	.60*
Item 12	3.03	2.39	.64*
Alienation			
Item 13	3.57	2.71	.86*
Item 14	3.06	2.11	.95*
Item 15	2.28	2.14	.14
Value of Work			
Item 16	3.96	3.41	.55*
Item 17	2.76	2.01	.75*
Item 18	2.22	2.00	.22
Freq. of Sig. of Diff.			11

*Significant at .05 by the Newman-Keuls Test.

Table V. Comparison of Degrees of Attitudinal Negativism-Positivism between Black and Poor

Black	Poor	Diff.
Mean	Scores	
3.57	3.34	.23
3.74	3.53	.21
3.62	3.57	.05
2.33	2.39	.06
3.46	2.96	.50
3.45	3.53	-.08
3.90	3.78	.12
2.97	2.79	.18
3.40	2.91	.49
2.86	3.36	-.50
2.58	2.28	.30
3.06	2.70	.36
3.50	3.13	.37
2.96	2.57	.39
2.33	2.21	.12
3.87	3.68	.19
2.74	2.38	.36
2.16	2.11	.05

*Scores >3.0 indicate negative/Scores <3.0 indicate positive.

Table VI. Frequencies of Significant Differences on the 18 Selected Items between Poor & Non-poor Black, and between Poor White & Non-poor White

Poor Black	Non-Poor Black	Diff.	Poor White	Non-Poor White	Diff.
Mean	Scores		Mean	Scores	
3.62	3.29	.33	3.07	2.41	.66*
3.82	3.52	.30	3.26	2.70	.56*
3.68	3.48	.20	3.46	3.39	.07
2.31	2.39	-.08	2.46	1.95	.51*
3.43	3.52	-.09	2.51	2.37	.14
3.57	3.16	.41	3.49	2.68	.81*
3.81	4.10	-.29	3.76	3.28	.48*
2.93	3.07	-.14	2.66	2.14	.52*
3.38	3.45	-.07	2.46	2.67	.21
2.97	2.58	.39	3.74	2.22	1.52*
2.59	2.55	.04	1.99	1.95	.04
3.03	3.13	-.10	2.39	2.04	.35
3.57	3.32	.25	2.71	2.28	.43*
3.06	2.71	.35	2.11	2.11	.0
2.28	2.45	-.17	2.14	2.06	.08
3.96	3.65	.31	3.41	3.52	-.11
2.76	2.68	.08	2.01	2.22	-.21
2.22	2.03	.19	2.00	1.94	.06
		0			8

*Significant at .05 by the Newman-Keuls Test.

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PRICE LEVELS AND PRICE VARIABILITY FOR SELECTED
TYPES OF FOOD OUTLETS WITHIN AND AMONG MARKETS*

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Price levels and price variability both within and between market areas are long standing issues of major concern. Concerns with prices are particularly acute in competitive or near-competitive economies where prices direct the allocation of resources among competing productive uses and among consumers of final goods. In competitive or near-competitive markets there is a special relationship among prices in space, time, and form markets.¹ The relationship among prices is formally termed the "Law of One Price." The law implies that under certain conditions all prices within and between markets are uniform, after accounting for the costs of adding place, time, and form utility to products within and between markets (Kohl & Uhl, 1980).

If significant retail price differences are observed for identical products within and between markets (after accounting for form, time, and space utilities), then there is legitimate reason for concern at the minimum for efficiency of resource use. Alcala (1976) suggested that when price differences were related to a region's (market's) socioeconomic characteristics, they were explainable to a degree by the search for information about prices by consumers. Groom (1966) suggested in a study of prices in poor neighborhoods that food prices were associated with the kind of store rather than with the geographic area. She found that median food prices in chain stores were the same; average prices in the small independent stores were little different in affluent and low income areas, and that the same held true for the large independents. The results did show, however, that within both low income and affluent areas

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¹Market boundaries are normally defined by the degree of independence of buyers and sellers over time, form and space, and this interdependence is measured by price sensitivity. Hence, with improved communications and transportation facilities market areas will normally increase in size.

the small independent store prices averaged higher than those of the large independents or chain stores. Although the observed cost of the market basket differed little in stores of the same type, there was an unusually wide dispersion in the price of any given item. It should be noted here, however, that Groom's results were based on median and average prices without any criteria to suggest when and if observed price differences were significant.

Devine and Marion's (1979) recent study conducted in the Canadian metropolitan areas of Ottawa-Hull showed that statistically significant differences were found between the mean prices of individual stores, between the mean prices of different chains, and between the mean prices in submarkets within the study area for sixty-five food products during their preinformation period. After publication of comparative price information, however, average food prices declined over a six week period by a total of 7.1 percent. Devine and Marion also observed that the difference in price index levels between high and low priced stores dropped from a maximum of 15 percent during the preinformation period to a low of 5.4 percent after the publication of comparative price information. During this same period, the range of prices between high and low priced chain stores declined from a maximum of 7.3 percent to a low of 3.1 percent. Although Devine and Marion found that there were statistically significant declines in the overall price level and in the price dispersion among stores, significant differences between the price level of individual retail outlets remained during the information period, and that differences in the average prices of individual chains declined but also remained statistically significant.

The most obvious procedure available to the consumer in obtaining information regarding prices was the search procedure (Nelson, 1980; Salop, 1976). Carman (1969) concluded from his study and evaluation of shopping strategies that consumers could more effectively reduce the average price paid for a product through timing of purchase rather than through extensive store search and store switching. Skinner's (1969) study of consumer motives in supermarket selection led him to suggest that there were only two significant groups in the retail food industry, the corporate chains and the affiliated independents. Skinner claimed that the predominance of this structure in the retail food industry had increased competition among supermarkets in nonprice competitive tactics but not in price competition.

There were numerous studies that had suggested that better consumer information would improve market performance, and some purported to give reasonable estimates of resulting benefits in terms of consumer surplus and/or producer surplus (Devine & Marion, 1979; Stigler, 1961). The primary objective of this study, however, is to examine the extent and the degree of price levels for a locally representative market basket for a market consisting of three cities spatially separated by approximately twelve miles. Major hypotheses of the study are: (a) the average prices of convenience stores are higher and less variable than those of supermarkets; (b) the average prices of the 24-hour supermarket are higher and less variable than those of other supermarkets in the same city; (c) the price level and variability of stores of the same supermarket chain in the same community are not different; and (d) the average prices of stores in oligopolistic markets are higher and less variable than those of the more competitive markets.

STUDY DESIGN

Three middle Georgia cities, Fort Valley, Warner Robins, and Perry, were used as the study area for this experiment. Price checks were made on Thursdays, on a weekly basis, for a combination of twenty-three food and nonfood market basket items at twelve outlets in the three cities. The sample items included milk, butter, ice cream, eggs, bread, flour, ground beef, chicken, hot dogs, sausage, corn flakes, grits, sugar, toothpaste, toilet tissue, Dial soap, Tide detergent, Dawn dishwashing detergent, Comet cleanser, Cokes, cabbage, tomatoes, and canned corn. Name brand products of the package size used by the U.S. Bureau of Labor Statistics were selected for price collection.

The market basket item makeup was based on a rather restricted pre-test of items that the area's average consumer regularly purchases. A time and resource constraint made it necessary to limit the number of items included in the market basket and the time period covered by the study. Prices collected were those shelf prices in effect on the day of the scheduled visit, and included any sale or special prices that were offered on that day. Prices were collected for the five week period of July 10, 1980 through August 7, 1980.

The distribution of stores among cities were two full line stores (or supermarkets) and one convenience store in Fort Valley, five full line stores and one convenience store in Warner Robins, and two full line stores and one convenience store in Perry. During the study period, there were three supermarkets in Fort Valley and Perry each, and eight supermarkets in Warner Robins.

METHOD AND ANALYSIS

The prices collected for the individual items of the market basket were converted into a weighted index number using expenditure weights. The formula is derived from the Laspeyres price index with the base period quantities as weights, as follows (Yamane, 1967, p. 273):

$$\begin{aligned}
 \frac{\sum_i P_{1i} Q_{0i}}{\sum_i P_{0i} Q_{0i}} &= \frac{\sum_i \left(\frac{P_{1i}}{P_{0i}} \cdot P_{0i} Q_{0i} \right)}{\sum_i P_{0i} Q_{0i}} \\
 &= \frac{\sum_i \left(\frac{P_{1i}}{P_{0i}} \cdot P_{0i} Q_{0i} \right)}{K}, \quad K = \sum_i P_{0i} Q_{0i} \\
 &= \sum_i \left(\frac{P_{1i}}{P_{0i}} \cdot \frac{P_{0i} Q_{0i}}{K} \right) \\
 &= \sum (\text{the price ratios of individual items} \\
 &\quad \times \text{each item's expenditure weight})
 \end{aligned}$$

where P_{0i} , Q_{0i} = base period price and quantity for item i , respectively,

P_{1i} = current price for item i ,

$\sum P_{0i}Q_{0i}$ = total consumption expenditure for the base period,

and $\frac{P_{0i}Q_{0i}}{K}$ = base period expenditure for item i as a ratio of the total consumption expenditure, which is defined as item i 's expenditure weight.

The weights were obtained from the U.S. Bureau of Labor Statistics publication "Relative importance of components in the consumer price index for the U.S., December 1975" (U.S. Bureau of Labor Statistics, 1975). Consequently, December 1975 was selected as the base period in computing the price index. The estimated index number was standardized by dividing it by the sum of the base period expenditure weights for the selected basket. The standardization procedure makes the index number representing the price level of the base period market basket equal 100 percent.²

Six sets of comparisons are made to statistically examine the levels and the variability of the levels of retail prices for different grocery outlets. The first three examinations test hypotheses (a)-(c), respectively, and the remainder test hypothesis (d). The test results are reported in Table 1. Only nine of the twenty-three selected market basket items were available at all sample outlets. Therefore, significance tests regarding the price levels between supermarkets and convenience stores, and those between/among the convenience stores in different cities ([1] and [6] of Table 1) are based on a nine item basket; while the remaining tests ([2] - [5]) are based on a twenty item basket. Most of the missing observations occurred not by "price differentials or specials," but, because the convenience stores did not carry meat or produce items, and one supermarket did not have sausage and grits for three consecutive weeks during the study period. That leaves one item (Dawn dishwashing detergent) that could have been out-of-stock at one supermarket for one week because of special prices.

One-way analysis of variance was employed to test the price means. The method assumes equal variances for the samples. Consequently, testing of the equality of sample variances are conducted first. The values of the test statistics for [1] - [6] are all nonsignificant at the 0.05 level.

The value of the test statistic for the equality of the sample means for supermarkets (170.44) and convenience stores (205.11) is highly significant (see [1] of Table 1). This result is expected because convenience stores enjoy a certain degree of monopoly power due partly to their locational advantages and longer hours of operation. These advantages may permit convenience stores to charge higher prices without substantial risk of losing customers. Besides, longer hours of operation incurs higher expenses and higher risk of robbery. These examples of higher cost may force operators to charge higher prices to stay in business.

²Standardization does not change the values of the test statistics used in this study. The constant term appears in both the numerator and the denominator of the test statistic formulas and cancel out each other. One advantage of the procedure is it generates an index number series with the base of 100%.

There is one full-line supermarket in Warner Robins that is open twenty-four hours, accepts credit cards for payment, has drugstore and department store sections, and has a liquor store on one side of the building. The store attracted a large number of patrons when it opened approximately two years ago and has since drawn a group of steady customers. It was expected that the store would have higher margins to offset its higher cost. The statistical tests, however, show that its average level of prices is not significantly different from those of the other supermarkets (see [2] of Table 1). One possible explanation for this outcome is that the store might have generated sufficient profits from larger sales to offset higher operation costs. Another possibility was that the store charged competitive prices on fast moving items (many of which might have been included in the market basket of this study) and charged above average margins on slow moving items. Holdren (1968) discovered that this was a customary practice in the retail food industry. Additionally, night shift personnel may be able to do many of the duties that must be done (e.g., stocking shelves) more efficiently than can be done during peak use hours. This would tend to reduce the higher operating costs.

One supermarket chain has three stores in the city of Warner Robins, and one store in each of the other two cities. The third set of comparisons ([3] of Table 1) examines the levels of prices among the three stores of the same chain in Warner Robins. The difference of the price levels is not statistically significant at the selected 0.05 level. These stores are under the same general management and prices advertised in the local newspaper apply to all stores. The statistical results confirm our expectation that prices among these stores are not significantly different.

The next three sets of comparisons ([4] - [6] of Table 1) seek to determine if the the price levels of stores in the more competitive market of Warner Robins are lower than those in the less competitive markets of Fort Valley and Perry. Price levels of the stores of the same supermarket chain, of the average of all supermarkets, and of convenience stores of the three cities were investigated. The *a priori* test is also employed to test the equality of price levels in Warner Robins as opposed to those of Fort Valley and Perry combined. The F-statistic values are significant at the 0.05 level or lower.

Perry and Fort Valley are smaller, more rural towns than Warner Robins with only three supermarkets in each city. The stores in the smaller cities are believed to have enjoyed a certain degree of monopoly power. Warner Robins has a population exceeding 40,000, expanding suburban residential areas and a total of eight supermarkets. These factors create a market structure for grocery retailing that is closer to pure competition when compared with Perry or Fort Valley. As a result, it is expected that stores (supermarkets and convenience stores) in Warner Robins would be more competitive than those in the other cities ([4], [5], and [6] of Table 1).

SUMMARY AND CONCLUSIONS

This study examines the price levels and price variability for selected types of food outlets in three middle Georgia cities. Twenty-

three food and nonfood products commonly purchased by typical households in the study area were selected as the market basket. However, the unavailability of several items at some of the selected outlets made it necessary to base the final analyses on a list of fewer items.

The shelf prices for individual products were collected during the summer of 1980 and expenditure weights were employed to calculate an index number to represent the price levels of the market basket. The statistical results of the analyses indicate that: (a) the difference of the price means between supermarkets as a group and convenience stores as a group is highly significant, but the difference of the price variances is not ([1] of Table 1); (b) the differences of the price means and price variances between the 24-hour supermarket and the other supermarkets in Warner Robins as a group, and those of the price means and price variances among three retail groceries of the same supermarket chain in Warner Robins are not significant at the 0.05 level ([2] and [3] of Table 1); (c) the price means for the submarket of Warner Robins are significantly lower than those of Perry or Fort Valley, but the difference of price variances is not significant ([4] and [5] of Table 1); and (d) the price means among the convenience stores are significantly different from one another, but the price variances are not ([6]).

The authors have no verifiable knowledge regarding the pricing policy of the retail grocers and no data based comments can be provided regarding the results showing that price variances are not significantly different between/among different outlets in these cities. The sample period of five weeks may be too short to allow for the observation of possible differences in the frequency, magnitude and direction of price changes over time among the different types of retail outlets. These data do, however, permit the confirmation of the classical theory regarding market structure, monopoly power and pricing behavior in grocery retail markets. In a more competitive market, as indicated by results for [2] and [3], there was no evidence of price competition among stores in the Warner Robins market. The price levels for Fort Valley and Perry were significantly higher than those of Warner Robins ([4] - [6]).

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Table 1
Significant Tests for Equality of the Price Variances and Price Means
(U.S. Average Prices for Dec. 1975 = 100.00)

	Replications					Mean	Variance
	1	2	3	4	5		
[1] Average of all Supermarkets	169.48	169.47	169.87	170.08	173.30	170.44	2.62
Average of all Convenience Stores	204.83	204.35	205.20	204.61	206.55	205.11	0.75
						F(1,8)=1783.19***	F(4,4)=3.49
[2] The 24-hour Supermarket	168.10	171.33	173.59	171.31	175.50	171.97	7.73
Average of other Supermarkets in town	167.94	169.73	172.64	171.81	170.08	170.44	3.40
						F(1,8)=1.05	F(4,4)=2.27
[3] Stores of the same Supermarket chain in Warner Robins							
Store 1	167.39	168.86	174.16	170.22	168.27	169.78	7.05
Store 2	167.20	171.56	172.08	170.05	168.63	169.90	4.11

(Table 1 Cont.)

Store 3	168.71	169.14	171.40	169.93	168.46	169.53	1.41
						$F(2,12)=0.04$	$F_{\max}=5.00$

[4] Stores of the same
Supermarket chain (in
the three cities)

Stores in:

Warner Robins	167.77	169.85	172.55	170.07	168.45	169.74	3.39
Perry	172.01	176.12	177.78	174.06	173.18	174.63	5.36
Fort Valley	175.96	175.80	175.42	172.99	174.24	174.88	1.57
						$F(2,12)=12.22^{**}$	$F_{\max}=3.41$
						<i>A priori test:</i>	
						$F(2,12)=24.40^{***}$	

[5] Average of all Super-
markets in:

Warner Robins	167.97	170.05	172.83	171.71	171.16	170.83	3.29
Perry	177.04	173.88	173.17	178.39	171.77	174.85	7.64
Fort Valley	173.86	173.80	174.04	170.68	177.02	173.88	5.03
						$F(2,12)=4.29^*$	$F_{\max}=2.32$
						<i>A priori test:</i>	
						$F(2,12)=8.15^{**}$	

(Table 1 cont.)

[6] The Convenience Stores

in:

Warner Robins	207.23	207.52	207.52	207.52	209.74	207.91	1.07
Perry	199.71	197.97	197.97	195.52	197.19	197.67	2.30
Fort Valley	207.56	207.56	210.11	210.78	212.72	209.75	4.90

$F(2,12)=76.78^{***}$ $F_{\max}=4.58$

A priori test:

$F(2,12)=21.27^{***}$

*Significant at the 0.05 level. **Significant at the 0.01 level. ***Significant at the 0.001 level.

NON-METROPOLITAN GROWTH AND THE CRISIS IN SERVICE DELIVERY

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One of the ironies of change in non-metropolitan America is that at the very time at which demographic and economic deliverance appears to be at hand, the stage is inexorably being set for a sort of chronic economic crisis which will likely leave the people of rural America in worse shape, at least in the short run, than before they fell victim to progress.

In most respects, we are willing participants in the kinds of changes which are now occurring, for throughout the largest part of the twentieth century, small towns and small town life appeared doomed. In 1910, for example, the rural population of our country was about thirty-two million; by 1970, it had fallen to a bit over nine million and further declines appeared inevitable. In the late 1950's and early 1960's, only forty percent of those born in rural America still lived in rural America, and there seemed no doubt that this exodus from countryside to city would continue (Lee, et.al., 1973).

Why the flight? The attractions of city life played a part, of course, but the most fundamental motivation was economic, for technological changes in agriculture, coupled with a tendency on behalf of business and industry to seek urban locations, created a huge pool of under-utilized labor for whom the future was bleak. The young left, as did the educated and the adventurous, and many of our small towns were turned into hollow shells with chronic fiscal crises and with rapidly aging populations. They came to be seen by many as a kind of residual category, a rapidly fading anachronism in a world irrevocably altered by urban processes.

Non-Metropolitan Industrialization and the Return to Rural America

Beginning in the middle 1960's two interrelated changes began to take place which were to forever alter the face and future of non-metropolitan areas. The first, and probably the more important of these, was the beginning of an abandonment of urban areas by businesses and industries which were able to take advantage of post-World War II innovations in production, transportation, and telecommunication technologies to materially reduce the need for vertical integration and for close spacial proximity to both suppliers and to markets. The attractions of non-metropolitan America were manifold. The most important factor was the existence in rural areas of huge pools of underemployed and unemployed, relatively low wage, generally non-union labor important to labor-intensive industries. Important, too, were the wide variety of financial incentives in the form of tax exemptions and, at least until limitations were imposed upon their maximum value by Congress in 1969,

Industrial Revenue Bonds, issued by the local community and financed as tax-exempt issues by the rental of factory sites by industries. Not as obvious nor as easily objectifiable, but equally important, were "quality of life" considerations, for as cities entered a period of post-World War II decline and decay, businesses began to find the urban environment inhospitable and began to flee it. The results were predictable: the departure of business led to a decline in employment which, since it was not usually made up, led to a decline in services, which resulted in a deterioration in quality of life. This, in turn, led to still more business departures which resulted in further declines in employment and still further deterioration in quality of life. This, needless to say, triggered still further departures of business, and the whole cycle would begin anew.

The second change, in part independent and in larger part a result of the first, was the reversal in the late 1960's and early 1970's of the historic trend toward urban concentration, to the point where not only did non-metropolitan growth begin to exceed growth in metropolitan areas, but many cities, particularly in the Northeast and North Central States began to actually lose population. While some have argued (most notably Beale, 1975) that the largest component of what we call non-metropolitan growth is the result of a spillover of population from suburban into adjacent rural areas and is thus simply the vanguard of further urbanization, or that it is simply a temporary reaction to persisting unemployment in urban areas (see, for example, Kain, 1975) and will revert to a more historically consistent pattern of rural to urban migration when economic recovery takes place, it is important to note that the phenomena has persisted for a full decade, that in all regions of the country, save the South, non-metropolitan growth in the decade 1970-80 was higher than metropolitan growth, and that even in counties not adjacent to metropolitan areas, growth through population in-migration as well as through decreased out-migration is taking place.

Why patterns of population growth have undergone a reversal is not at all clear, and simple explanation is made very difficult by the fact that there are a number of different groups involved, each of which has relatively distinct motivations. A first group, and in some areas of the country the largest, is made up of what might be called "returnees": individuals who, having left non-metropolitan America as part of the post-World War II flight from the countryside are beginning to return, leaving behind a situation of urban decay and chronic urban unemployment, and seeking to resume a way of life, which, once left, came to be appreciated or, at least romanticized. Such data as we have pertaining to this group clearly suggest that while labor force considerations are important, social rather than economic factors are paramount in their decisions to return (see, for example, Campbell and Johnson, 1976). The size of this component is highly variable from region to region: in the Ozarks, for example, one survey found that forty-three percent of the in-migrants were returnees (Williams and Sofranko, 1979), a pattern probably characteristic of Appalachia as well as parts of the Delta South where the return of Blacks is (or is, at least, likely to become) a significant component in population growth. Nationally, Long and DeAre (1980) found that 6.8% of the respondents in the 1975 Annual Housing Survey moved from metropolitan to non-metropolitan areas to be

closer to relatives, a figure which undoubtedly underestimates the size and importance of this group, as many are returning not to kin but to a way of life.

A second group is made up of retirees the exodus of whom from urban America has been made possible by a relatively high standard of living underwritten by pensions and by social security. This group obviously makes up a large proportion of the Sunbelt population stream, although they have been found to constitute a significant component of those moving into other areas: Price and Clay (1980) report on one town in Michigan, for example, where over forty-five percent of the migrant stream was made up of individuals sixty-five or older. Nationally, this group is quite small (Long and DeAre (1980) report 5.6% on the basis of the 1975 Annual Housing Survey), but their numbers are deceptive for not only do they tend to be highly conservative both fiscally and politically, but they can (and often do) exercise political power far in excess of what their numbers would suggest, as a very large proportion of them vote.

A third group might be termed the workers, individuals for whom migration is the result of the combined effects of urban unemployment and the post-1960's exodus of business and industry from metropolitan to non-metropolitan areas (Long, 1980; Kirschenbaum, 1971). Jobs have always attracted workers, and labor force considerations have always been paramount in migration into occupationally attractive areas. This group is of particular interest to social scientists, for as Williams (1981) has quite aptly pointed out, economists, geographers, and sociologists have always been drawn to a migration model which assumes an economically rational individual who attempts, through a variety of rational migration decisions, to maximize rewards.

Because of the post-1960's tendency, particularly for new and expanding businesses, to locate in non-metropolitan areas, migration-for-employment has become an extremely important component in the overall migration stream because non-metropolitan areas currently offer the sorts of job opportunities which, a generation ago, were offered exclusively by urban areas. The motivation of these individuals is given a particular sense of urgency by the persistent economic problems which have characterized the 1970's, to the point where even the possibility of jobs can trigger an influx of workers anticipating eventual employment. Smith, Hogg and Reagan (1971) report, for example, that the prospect of dam construction jobs in Sweet Home, Oregon, precipitated immigration as early as three years before construction actually began. Of particular, although at the moment of highly localized importance, too, is the tremendous expansion of activity associated with the post-1973 search for, and development of, domestic supplies of energy, for there has emerged a huge number of "gypsy" miners and "gypsy" construction workers who can have a tremendous impact on a community, an impact which can be particularly devastating both because of the numbers of individuals involved, as well as the speed with which their impact can be felt.

The consequences of all this for metropolitan as well as non-metropolitan America have been enormous, and have brought about far reaching changes in both. For metropolitan America, the most immediate consequences

have been economic: the aggregate income of those who moved out of cities in the period 1970 to 1974 was roughly \$55.3 billion; for those who moved in, roughly \$25.7 billion, resulting in an almost \$30 billion dollar loss in taxable personal income, consumer purchasing power, consumption-related services, and the like. This, coupled with the loss of taxable business properties has created an urban fiscal dilemma to which there is no easy solution.

The situation in many non-metropolitan areas is the antithesis of this, for they have been the direct beneficiaries of the very changes that have so devastated many of our largest cities. Between 1962 and 1978, there was a net increase of almost two million manufacturing jobs in non-metropolitan areas -- an increase of fifty percent -- with more than half of them created in the South. This, along with the reversal in population decline characteristic of most non-metropolitan areas, spawned another seven million non-manufacturing jobs, most of them in government or in private-sector, service-performing industries.

The results for non-metropolitan areas appear to be all for which even the most optimistic might hope, for the comings of business and industry and the resumption of population growth, brought both a new optimism and the means with which to halt the disappearance of small town life and all that it represented. Industry has been aggressively courted in the belief that industrialization and the economic vitality which it engenders, can halt population decline, not only by attracting new residents, but, perhaps more importantly, by increasing the population retention capabilities of the community by offering not only jobs, but careers. Industry, it is hoped, can bring desperately needed jobs to areas within which unemployment and underemployment have been the norm for decades, and with jobs, it is believed, will come come prosperity. It is hoped that industry, and the service base which industry will create, will lead to an expanded tax base, to the development of services obtainable only in urban areas, and, in general, to a sort of rural renaissance.

To what extent are expectations borne out? In general quite well, for, on the whole, both populations and labor forces do grow, and the growth does seem to herald the coming of a new vitality to small town life, if for no other reason than the fact that streets and stores once again have people in them. After an initial fear of change, some small towns have come to learn that newcomers often bring with them the sorts of desperately needed skills that can materially improve the quality of life for the community and for its citizens, and are finding that they no longer have difficulty attracting and keeping physicians and dentists, lawyers and accountants as permanent residents.

Non-Metropolitan Change and Non-Metropolitan Problems

The problem with all of this, I believe, lies in both an overly simplistic view of the social and economic issues involved in non-metropolitan change, as well as in an overly optimistic assessment of what constitutes progress. There seems to be an almost inevitable tendency for many rural communities to assume that gains in jobs and gains in population mark them as victorious in a competition with urban areas,

and certainly they do seem to be "winning" as the balance of demographic, economic, and political power shifts from urban to rural and from north to south. On the whole, however, I would argue that rural America has been too readily optimistic, and that the "accounting procedures" by which success and progress are measured are fundamentally flawed. I would argue that many non-metropolitan areas have become so infatuated with short-term, direct gains that they have either minimized or neglected the real possibility of long-term, indirect losses that will leave many of them losers rather than winners, and will exacerbate rather than resolve many of their problems.

Non-metropolitan communities face, I believe, a three-fold dilemma to which there is no easy solution. In the first place, rural areas not only contain huge numbers of individuals in need of social and human services, but the pool is going to grow inevitably larger as social change processes work themselves out. In the second place, rural areas have always received a less-than-proportionate share of public sector resources, and when they receive services at all, they are typically burdened with little more than scaled down versions of programs designed for urban areas (see, for example, Coward, 1979), which are typically implemented by outsiders with neither a real understanding of the specific nature of rural problems, nor any real sympathy for the sorts of social and cultural impediments to service delivery which often characterize rural populations. Finally, as bad as things are, they are probably not going to get any better, and can quite possibly get far worse. We are now in an age not only of fiscal crisis, but, more importantly, of an attempt to shift much of the burden for human and social services delivery from the Federal government to State and ultimately to local governments. This ideology of "New Federalism" will, if implemented, stem the flow of Federal dollars to rural areas which, because of the poverty of their populations and their often overgenerous use of tax exemptions to attract business and industry, will find it very difficult to cope on their own. Furthermore, the one solution that has been touted as "the answer" -- economic diversification through non-metropolitan industrialization -- will for many communities, I believe, prove more trap than panacea, and will fail to deliver either the gains sought or the benefits expected.

In a great many respects, the people of rural America are not only a people left behind, but have also been a people left out. Throughout the 1970's, roughly thirty percent of the nation's population lived in rural areas, but forty percent of our poverty was rural, a poverty often more dire than the more visible urban variety. Rural areas have almost one-third of the nation's population, but almost two-thirds of the nation's substandard housing, a proportion which will probably rise as boomtown growth makes extremely strong demands on limited housing stocks and brings more substandard housing into the market. With almost one-third of the nation's population, rural areas have only twelve percent of the nation's physicians and eighteen percent of the nation's nurses and markedly higher infant and general mortality rates: pediatricians, for example, see a quarter of all children in metropolitan areas, but only twelve percent of all rural non-farm children and four percent of all farm children (Deaton, 1976). In addition to chronic unemployment

which spans literally decades, rural areas are often the focus of frank economic exploitation, for the industries that come to non-metropolitan America come not as saviors, but more typically to take advantage of rural unemployment by seeking out cheap, non-union labor (Webster and Campbell, 1976).

The response of government to all of this has been woefully inadequate: in the face of two-thirds of the nation's substandard housing, rural areas in the early 1970's, received only sixteen percent of all federal housing assistance, a situation left essentially unaltered by the Housing and Community Development Act of 1974, Title V of which promised much but delivered little (Tsutres, 1976). In the face of problems of chronic unemployment, rural areas have been very poorly served by "manpower" programs: only 3.6 percent of available CETA funds for on-the-job training were directed to non-metropolitan areas (Webster and Campbell, 1976). In spite of the 1967 recognition by the President's Commission on Rural Poverty that "the extent to which rural people have been denied equality of educational opportunity is evident . . .," little supplemental support has been given education in rural America, and such money as is made available to address the special problems of special populations is typically directed to metropolitan areas: of the \$70 million allocated in 1973 to deliver services to educationally deprived migrant children, only eight percent went to non-metropolitan areas (Webster and Campbell, 1976).

What is more to the point of this paper is that these problems are probably going to get worse not only because of an increase in demand for all sorts of social and human services which accompanies population growth, but also because of the failure of rural industrialization to fulfill its promise.

The specific problems with which a community shall have to deal depend to a great degree on the composition of the incoming migrant stream, but in spite of a great diversity, all have one thing in common: more individuals in need of more services. Regardless of stream composition, there is going to be an inevitable increase in demand for services as newcomers overload the carrying capacity of both the local job market and local service delivery systems. One very common and extremely expensive demand is for community wastewater treatment and community water systems, demands made particularly burdensome by increasingly stringent state and Federal regulation of systems that are often already working far beyond the point at which any additional load is possible. A 1978 study conducted by the Council of State Planning Agencies found that of almost seven thousand communities surveyed, about half were operating their sewage treatment systems at eighty percent or more of capacity, and of almost six thousand communities, one-third were operating their fresh water treatment systems beyond the point where any significant load additions were possible (Herbers, 1981).

Special populations will demand or necessitate special services. If a large component of the in-migrant stream is made up of retirees, services and facilities specific to their needs are going to be in demand, particularly by those from urban backgrounds who quite commonly

demand urban-style recreation and health care services (Coward, 1979). If, on the other hand, the stream has a large component of young adults, education will become a very pressing economic and political issue, not only because of the impact that even limited increases in fertility can have on communities where birth rates have been down for decades, but also because of a tendency for education financing to become a battleground between those for whom expansion and upgrading of educational facilities is of paramount importance, and those for whom there is not only little perceived need for upgraded education, but who see in the expanded and improved only higher taxes (an excellent discussion of this issue with particular relevance to boomtowns is to be found in Bates, 1978).

The worker and returnee components are a source of potential difficulty as well, for in spite of differences in motivation, they do have one thing in common: migration in search of employment. To the degree to which jobs are a magnet (and this will be increasingly the case if non-metropolitan industrialization continues), their migration has the potential of overwhelming the available stock of jobs regardless of how large it grows. Furthermore, since they are typically better educated and more highly skilled than the local disadvantaged, they cannot only compete successfully for what jobs are available, but can also, particularly if their numbers are large, cause significant increases in local unemployment. Summers, *et.al.*, (1976) on the basis of case study data, report that in over half of the cases reviewed, the proportion of new jobs filled by local unemployed was less than ten percent, and that in at least one case, unemployment in an eight county area surrounding a plant site rose thirty-four percent in the two years following plant construction. They conclude that "local labor markets operate in ways which often work against the needs of the people for whom industrial development has been promoted" (p. 54). In one respect, then, in-migration can have the effect of simply moving unemployment problems from urban areas which typically have the structures and resources to deal with them, to rural areas which typically do not.

As demands for services increase, many small towns are faced with severe financial difficulties, which are as frequently as not caused by population growth and compounded by industrial expansion. Virtually all public sector areas are affected: police and fire protection, storm sewer extension and maintenance, garbage and refuse collection, road paving and maintenance, social and human services expansion, and on and on. What is important to note is that none of these problems are new and none derive solely from rapid social change. What is new is the coming to rural areas of large numbers of individuals characterized by values which eschew self-sufficiency and emphasize the need for (and to many, the right to) governmental solutions to individual problems.

These difficulties can reach almost catastrophic proportions when the catalyst for growth is energy exploration, as it is in many parts of the country. Not only do the in-migrants have little long-term commitment to the community, but their sheer numbers and the complexity of the problems that attend their style of living often necessitate the development of service delivery systems to address problems which had previously

been dealt with informally. Freudenberg, for example, reports that the western energy boom is already having a tremendous social and economic impact on the affected communities even though the population flood is just beginning. He notes a typical situation in Rock Springs, Wyoming, which had a one hundred percent increase in population in just three years, and an eight hundred and fifty percent increase in community use of mental health facilities, mostly by natives and old-timers unable to deal with the stresses engendered by rapid social change (cited in Omang, 1982. See also Bates, 1978).

Certainly the cost of some of these services is recoverable through the expanded tax base that industrial development and population growth imply -- if the money stays in the taxing jurisdiction, if employment benefits accrue to local residents, and if substantial tax exemptions have not been given (as they typically are) as a locational incentive -- but one can very seriously question whether gains will be sufficient to lead to the kind of economic renaissance that many communities expect. As Business Week (1976) notes, unless new businesses "move a lot of people off the jobless roles, communities lose or break even at best on the new public services required" (p. 72).

Strategies for Coping With Change in Non-Metropolitan Areas

There is little question that non-metropolitan America is changing, and equally little question that many of the changes will bring with them problems that are both more numerous, and of a far different nature, than those with which rural areas have traditionally had to deal. While the challenges are daunting and the possibilities for meeting them vast, it is possible to suggest a number of ways in which changes can be made, and new and innovative solutions to old and persisting problems undertaken.

- I. The probability of declining resources in the face of growing service demands is such that the expansion of services in non-metropolitan areas must increasingly rely on existing networks already integrated into the lives of those who they seek to serve.

While programs specific to the needs of rural clients do not have to originate in rural areas, it is necessary that programs developed for their needs "fit" into the community and reflect, as far as possible, the community's appreciation of its own needs rather than be imposed upon the community from the outside as has typically been done in the past as an exercise in what Webster and Campbell (1976) call neo-colonial service delivery. As Kahn (1970), Coward (1979), and others have quite correctly pointed out, one major source of failure to adequately address rural social problems has been an inability to work within the social and cultural structure of the community which commonly results in the program and its personnel being isolated from the very people they are trying to help.

Any program that is to be successful has to be consistent with the values and expectations of its would-be clients; values which, in rural areas, typically stress independence, self-help, and the maintenance of traditional rather than bureaucratic ties both to others and to the community. No program, however well intentioned, is likely to succeed if it

does not take adequate account of these fundamental values, and urban-originated programs recycled for rural use fail precisely for this reason. They tend to be highly bureaucratized and to emphasize impersonal efficiency rather than the less efficient interaction rituals of traditional life. They are staffed by "outsiders" who not only have limited community credibility, but often affect life-styles which engender suspicion and distrust (the importance of life-style compatibility cannot be underestimated. See, for example, Mermelstein and Sundet, 1976 and Wylie, 1976). They tend to emphasize dependence in a world within which independence is still valued.

The most commonly proposed solution to these problems, and probably the most realistic one given the prevailing fiscal climate, is to rely heavily on already existing community organizations with established credibility -- what are called "natural helping networks," including the church, the school system, and the Agricultural Extension Service -- and on what might be called "natural helpers," either trained (see, for example, Kelley, *et.al.*, 1977) or untrained, who because of their formal positions in the community, are typically called upon to deliver informal services: clergy, physicians, lawyers, teachers, county agents, and other individuals significant in community life.

Such proposals are not new (particularly in relationship to programs for the elderly where "Area Agencies on Aging" were intended to coordinate and integrate informal services to the aged) but they have typically not borne fruit for at least two reasons.

Probably the most serious impediment to the successful operation of service delivery systems based upon natural helping networks and upon the activities of natural helpers, is a failure to provide adequate training and support services. The natural helper/helping network concept is both appropriate to non-metropolitan areas and highly humane, but such efforts are not likely to be successful unless they are tied to regularly organized support systems which can provide information and expertise to both validate and support service delivery activities. That the mobilization of natural helpers is compatible with the needs of non-metropolitan populations is all to the best, but they cannot be expected to stand alone.

- II. The effectiveness of human services professionals in dealing with non-metropolitan problems will ultimately depend upon a fundamental redirection of their efforts.

A second source of difficulty with the natural helper/helping network concept is an inevitable tendency for implementation to be resisted by helping professionals as an intrusion into their natural spheres of competence. While inevitable, such "boundary maintenance" precludes making the kinds of adaptations necessary to do more with less. One might propose three interrelated changes that might be considered to more effectively use the special competence of professionals, none of which lead to a compromise of their personal or professional status.

In the first place, there can be an increased utilization of para-professionals on the cutting edge of service delivery in programs where they can be appropriately employed. The advantages which lie in their use are

numerous: as peers of their clients, they can operate within the social structure, and can thus relate to their clients on an informal as well as on a formal basis. They can therefore bridge the gap between agency and client much more effectively than outside professionals. What is perhaps more important, is that their use is far more cost effective than the use of professionals, and they can therefore be used in greater numbers at the same level of funding (perhaps the best discussion of the use of para-professionals in human services is Korchung and Warner, 1975).

In the second place, the role of the professional in rural areas can evolve from direct involvement in service delivery activities to a more indirect role as a resource person, providing both supervision to a network of para-professionals, as well as the special expertise that their professional training implies. This would, I believe, increase rather than diminish professional stature as it would relieve them of the tedious and the repetitive.

Finally, the training given human services professionals intending to work in rural areas can be oriented toward preparing them as generalists capable of a broad range of skills rather than as specialists of narrow competence. Not only do low levels of population density in rural areas preclude specialization, but a demand that they supervise a network of para-professionals and aides would make necessary as broadly-based a preparation as possible (for a discussion of this issue see Couch, *et.al.*, 1976; Webster and Campbell, 1976).

III. Perhaps the most effective way of coping with problems engendered by rapid social change is to practice a kind of pre-emptive prevention planning.

Of all the strategies likely to improve our ability to deal with the consequences of rapid social change, none is likely to be more productive than growth management planning to enable us to control rather than to stand silent before change. I am not proposing that rural areas seek to prevent or to halt change, for the changes brought about by in-migration and by the coming of business and industry, while temporarily painful, can be, in the long run, to the advantage of all. They can, at best, replenish depleted treasuries, revive long moribund economics, and bring a renewed vitality to community life.

Much of the problem, I believe, is the result of a confusion of change and progress, for many communities, desperate to quell population out-flow and to increase the vitality of the labor market, jump blindly into a situation which they are incapable of handling and often willingly surrender their fiscal birthright in exchange for an elusive promise of prosperity, a promise that is typically unfulfilled.

The small towns of rural America can neither stop growth once it has begun nor start growth if the circumstances are not right, but they can control it. In the long run, what causes problems is less an issue of numbers of migrants, than it is their social and cultural characteristics, and these can, to a degree, be controlled through aggressive land use zoning to both produce predictable kinds of development, and channel what kinds

of development that occur. Small towns can actively seek to attract the kind of people who best fit their image of their future.

The same can be said for business and industry. It is easy to be seduced by the idea that any job and any industry is better than neither jobs nor industry and to some degree such a belief has at least some validity. But what communities must avoid is the wholehearted and uncritical acceptance of industrialization at any price, for the price that the community pays is, I believe, too high to be endured.

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Dimensions of Industrialization, Growth and Inequality.

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S. Gunde Rao

"Abstract"

The classic hope that industrialization in rural areas will lead to increasing incomes and declining income inequalities is subject to several conflicting findings in the rural development literature. To codify the "mixed findings", a typology of alternative outcomes ranging from "management for distribution" to "management for capitalization" is developed. Dimensions of industrialization, including size and growth of the labor force and relative size and growth of the managerial force are modeled to describe income growth and inequality. Census data for 61 Alabama counties (1960 and 1970) are used.

A multiplicative recursive model is used to correct for heteroscedasticity in the income and income inequality equations and to provide elasticities that are comparable across populations. Confidence in the model is enhanced by its apparent isomorphy with the national production function which finds income returns to increments of capital (management) to be about 1/3 that of labor. Regarding income inequality (Gini Index), labor force changes have indirect negative impacts (through income changes) upon rates-of-change in inequality, but both positive direct impacts in some counties and negative indirect impacts upon inequality in other counties are exhibited by increments of management. The latter set of relationships is typical of the "mixed results" reported in the literature.

More work is needed to determine whether the increasing inequality impact of management is a chronic condition for certain types of counties or, more likely, one phase in a cycle between capitalization and income distribution extremes. After some refinement of the model, it will be tested on a sample of counties in the Southeast as a part of RRI.

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Introduction

Recent pioneering attempts to analyze comparative changes in income and income inequality have sought causes in current changes in dimensions of industrialization, (Rogers et al., 1978) as well as in initial levels of both industrialization and the dependent variables (Perry, 1980).

Both studies attempt to test the generally held hypothesis that industrialization promises income growth and distribution benefits for communities; i.e., both average incomes and equality of incomes increase as a direct effect of industrialization. Neither study finds direct uncomplicated support for the hypothesis. Rogers, et al., (1978: 253) provide a concise overview of the literature that amply justifies their inconclusiveness. At best, they find a mixed picture in which industrial development may have brought perceptible improvements in income to some communities but questionable or less obvious impacts to others.

Perry demonstrates a design that focuses on the importance of the initial levels of industrialization and income in conditioning rates-of-change in income and inequality. He is frustrated, however, in his attempt to estimate and interpret the observed effects of industrial development upon income and income inequality. Perry observes that "industrialization levels and changes seem to have had contradictory relationships with changing inequality" and concludes that the relationship "clearly needs more study" (1980:144).

Other reviews also find mixed social and economic impacts of industrialization (Summers et al., 1976; Tweeten and Brinkman, 1976; and Nolan and Heffernan, 1974).

These widely preceived mixed impacts appear to warrant trying a new approach: one which explores the possibility of systematic occurrences of industrializations different impacts.

For example, Rogers et al. (1978: 258-60) might have been more conclusive if their research questions were sensitively tailored to the complexities they observe so well in their literature review. Instead of questioning the preconditions and to what extent industrial development leads to improvements in income and income distribution, they ask simply "whether family or per capita incomes increase in communities experiencing industrial development" and "whether the distribution of community income becomes more equitable in communities that have experienced community development". As Perry observes (1980), Rogers et al. would do well to control for the initial levels of industrialization or income out of which evolved the change they analyze.

A fresh look at Perry's Table 1 (1980:142), suggests that an analysis of the direct and first-order indirect effects of industrial development would have been straight forward. First, the direct link between the initial level of industrialization (log of the number of firms) and increasing inequality (proportional change in the coefficient of variation of family incomes) is positive as is the indirect link through the rate-of-change in per capita income, i.e., both the direct and indirect effects of the initial level of industrialization on the change in inequality are positive. Second, a change in industrialization also has a positive indirect effect upon change of income inequality through change in per capita income, but the direct effect is negative and insignificant. Stated differently, a higher initial level of industrialization and its

growth appears to be increasing both per capita incomes and income inequalities.

At least two similar findings are available, Ainger and Heins (1967:178) adopt the urban center as a focal point for capital formation. Through Kuznet's eyes (1966), when income levels are held constant they then expect and find a greater inequality of income for states with large urban population concentrations. Foley (1977) also finds a positive association between population density and inequality for 300 northeastern U.S. counties. Of course industrialization and urbanization are not identical processes, but their impacts on income distribution are apparently very similar. The differences are discussed in the next section.

Further ex post facto analysis of Perry's findings suggests that they could use elaboration focusing on dimensions of industrialization. Taken together with the industrialization variables, he found high levels of income and income inequality in 1960 to predict declining inequality during the following decade. Intuitively, these may be interpreted as income deconcentration or distribution effects. Independent of income deconcentration effects, it is logically consistent in a capitalists society to expect that any residual direct effect of the level of industrialization would be to predict income concentration-hence the positive coefficient found by Perry (1980) for change in income inequality regressed on industrialization 1960.

In sum, Perry's findings are interpreted here to suggest that the net effect of higher initial levels of industrialization and its change, holding initial income and inequality constant, was to increase per capita incomes, but also to concentrate them in relatively fewer hands. If the reader accepts this interpretation, the next logical question would deal with particular dimensions of industrialization and the conditions under which they would lead toward either a concentration or a broader distribution of income.

Dimensions and Impacts of Industrialization

While they are usually parallel processes, urbanization and industrialization are not isomorphic processes. The latter is usually more managed and intentional. Industrial managers enter a local economy expecting to be competitive in the local labor market. Usually, industrial management will seek out communities in which required skills are available in sufficient numbers, but the average wage is less than that which the company is willing to pay.

If an industry moves into a particularly lucrative labor market, they may invest substantially in management without having to pay any more than average wages for labor. Such a strategy, due to high management wages, may simultaneously increase average incomes and income inequality. This is the classic expected outcome of industrialization from a capitalist perspective. Profits could then accumulate and be reinvested in more management, which in turn converts capital and surplus labor into more profits.

At later stages when the labor force becomes more fully organized and achieves relatively higher wages than might be available elsewhere, new industry and management would move on to more lucrative labor markets. Situations in which incomes are increasing and inequality declining are probably situations in which industrial profits are peaking. If alternative

situations are available, industrial growth may be expected to shift new investment elsewhere.

Rural Industrialization: Human vs. natural resource bases

Industrialization in Rural areas is generally attracted by either an unique human resource base or an unique natural resource base.

An industry seeking a less skilled low-paid, but stable labor force is not particularly attracted to growing urban areas. Such industries may seek out rural communities with many small farms or a low cost of living such as those in the Southeast of the United States. Such industries, if they employ enough people, may make a profit, raise per capita incomes and reduce inequality, all at the same time (e.g. Summers et al., 1976: Chapter 5).

On the other hand, if somewhat less labor intensive industry was attracted to a rural community by tax incentives, industrial development bonds, or rural based non-human resources, only a few better paid jobs would probably result. Therefore, median per capita incomes need not increase, but greater inequality of incomes are likely. In this case, increased industrialization may lead directly to higher paid management and increased inequality without influencing median incomes. Urbanization would have little to do with these resulting increases in inequality.

As observed in these examples, two dimensions of industrialization--management and/or capital intensification and labor intensification--may have complimentary or opposite impacts upon income distribution. Depending upon relative positions in the region's labor market, some local economies would distribute incomes more equally while others would facilitate the concentration of incomes.

Management intensification combined with increasingly broad based and productive labor forces would generally be with the intent of increasing incomes and reducing inequality. Alternately management intensification that yields a more productive capital intensive industry without employing significant numbers would not be with the intent of reducing inequality. Capital and management may even displace labor. To the extent that the usual intensions of management--increased productivity--is realized, a typology of the expected income distribution outcomes is presented in the next section.

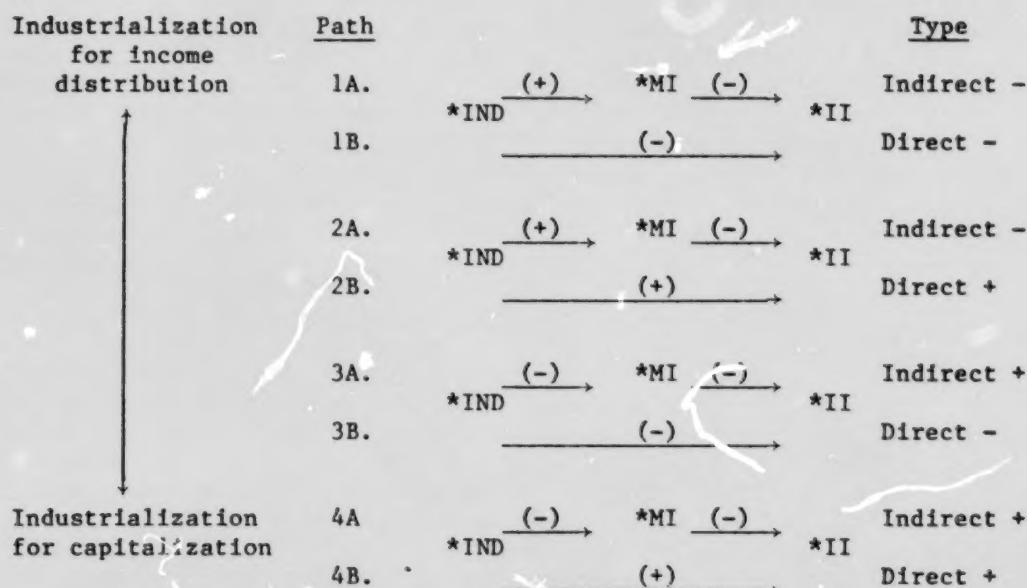
Income Distribution vs. Capitalization

In a dynamic comparative perspective of income distribution within local economies, the following research question emerges. Do dimensions of industrialization have both negative direct and indirect effects upon change in income inequality; both positive direct and indirect effects; some mix of positive and negative, direct and indirect effects; or no systematic effects at all? (See Figure 1.)

This range of possibilities could be positioned on a distribution (income deconcentration) vs. capitalization (income concentration) continuum. For simplicity, it would be necessary to set aside the u-shaped econometric specification of (Weede, 1980) and take the consistent finding of an inverse relationship between levels of median incomes and levels of income inequality as a truism (Kuznet's (1963), Aigner and Heins (1967),

Al- Sammarrie and Miller (1967), Sale (1972), Jonish and Kau (1973) and Foley (1977).

Figure 1. Alternative impacts of change in industrialization upon income inequality



At the industrialization-for-income-distribution extreme on the continuum, a set of two equations would yield two major paths through which percentage change in industrialization (*IND) could impact percentage change in income inequality (*II). In local communities on path 1A, Figure 1, *IND would have an indirect-inverse relationship with *II through change in median income (*MI), e.g., *IND would increase *MI, which in turn would lead to a decline in *II. Meanwhile other communities on path 1B would find a direct-inverse relationship between *IND and *II with no intervention by *MI. With or without increases in *MI, above average increases in *IND would lead to above average declines in *II.

On the other end of the continuum, industrialization for capitalization, path 4A represents an indirect-positive relationship between *IND and *II through *MI and path 4B shows a direct-positive path from *IND to *II. All communities, directly or indirectly, would find industrialization leading to concentration of incomes. Other logical possibilities are a mix of these two extremes: Path 2A would be an indirect-inverse path and 2B a direct-positive path, while path 3A would be indirect-positive and path 3B a direct-inverse path between *IND and *II. Indirectly or directly, some local economies find industrialization leading to capitalization while others are simultaneously enjoying, on the average, a broader income distribution.

Using this two equation scheme, it would only be possible to identify the dominant effects for the two paths. The same scheme could be elaborated to include two or more dimensions of industrialization by duplicating the two paths in each equation for each dimension of *IND. Similarly, if the

effects were expected to vary spatially, the paths could be duplicated for different regions.

In any event, this analytical scheme can be used to explore a sample of counties or other units in an effort to estimate the relative direct and indirect impacts of industrialization upon income distribution. As was evident in the literature, almost all possible impacts have been observed in one case study or another. Less evident in the literature are systematic attempts to codify the range of observed impacts. Here it is rationalized that under different conditions the alternate income distribution outcomes of industrialization are to be expected; and that in a dynamic-comparative analysis it is possible to explore the extent to which industrialization is influencing income concentration (increasing inequality), or income distribution (decreasing inequality), or both simultaneously, but in different sets of counties. Of course, it is also possible that no non-spurious relationships will be found.

Correction for Heteroscedasticity and a Multiplicative Model

Perry (1980) was concerned with the skewed distribution of the initial level of the manufacturing (Industrialization) variable. Following Rummel (1970: 285), he used a log transformation on this one variable and slighted the probability of heteroscedasticity among several of his variables. It is more reasonable to expect that error terms associated with larger units have larger variances than error terms associated with smaller units. Particularly when variables are skewed, estimated disturbances are likely to be heteroscedastic. When heteroscedasticity is present, ordinary-least-squares estimation places more weight on observations with larger error variances. Parameter estimates thus derived are called inefficient because the variances are not minimum and any conventional tests of statistical significance will be biased (Christ, 1966; Johnston, 1972; Pindyck and Rubinfeld, 1976).

Jackman (1980) acknowledges that the heteroscedasticity problem can be solved by weighted-least-squares or generalized-least-squares. However, he presented a simple solution by taking logarithmic transformations of skewed variables on both sides of the equation. Jackman argues that the chances of observing heteroscedastic disturbances are thus reduced, indicating that the estimated coefficients are more efficient.

In this analysis, logarithmic transformations of the initial level are included on the right-hand side of the equation. On both sides of the equation, rates-of-change are calculated by differencing the logs of the initial and later levels (Jackman, 1980: 606). While Jackman's correction for heteroscedasticity does not require log transformations for all variables, there are advantages in doing so. Such a modification requires accepting the assumptions of a multiplicative model, as recommended by Beck and Summers (1979). Parameter estimates in the form of elasticities are thus obtained. It is then possible to interpret all regression coefficients as percentage changes in the dependent variable, given one percent change in the respective independent variables. Then, as is commonly done with Cobb-Douglas production functions, management's impact, labor's impact and their relative impacts, upon income could be compared with other empirical studies.

Finally, Perry's historical, theoretical and methodological justification (1980: 141-142) for emphasis on the initial levels of independent

and dependent change variables is accepted and they are all included in the model. Thus, change elasticities are all controlled for their initial values. The log-log model further implies that the elasticities are controlled for the multiplicative interactions among change variables and between change variables and their initial values.

The two equation multiplicative model described here is of the following form:

$$1.0 \text{ *MI} = \alpha (\text{MI60})^{\Gamma} (\text{IND60})^{\beta_1} (*\text{IND})^{\beta_j}$$

$$2.0 \text{ *II} = \alpha (\text{II60})^{\Gamma_1} (\text{MI60})^{\Gamma_2} (*\text{MI})^{\Gamma_3} (\text{IND60})^{\beta_1} (*\text{IND})^{\beta_j}$$

With all variables in logarithmic form, the predicted *MI for a selected county is equal to the antilog of the sum of the products (constant and variables multiplied by their respective elasticities) specified by the equation. For example:

$$\text{Log *MI} = \alpha + (\text{Log MI60} \cdot \Gamma) + (\text{Log IND60} \cdot \beta_1) + (\text{Log *IND} \cdot \beta_j)$$

As indicated above, this two equation scheme may be elaborated for two or more dimensions of *IND or variables.

The Data

Dimensions of the predetermined *IND variable considered here will include the initial level and change in size of the civilian labor force (CLF60 and *CLF), the proportion of the labor force in management (MNG60 and *MNG), and the proportion of male employed that is black (MEB60 and *MEB). As agents of change n , *CLF and *MEB should be useful in monitoring an "industrialization for distribution" tendency while *MNG is expected to be more useful in indexing on "industrialization for capitalization" dimension. The initial level and change in the dependent income variables are median family income (MI60 and *MI) and the Gini Index of Income (family) Inequality (II60 and *II). Initial values for all variables are derived from the 1960 Census of Population for Alabama counties. The change variables (*) are derived from the 1960 and 1970 Census of Population. The current data set includes only 61 of 67 Alabama counties. It was originally used to intensively study the rate-of-change in the black proportion of the labor force. Six Alabama counties report sample data on too few black families to be reliable.

Among the change variables, two have declined: *MEB, an average of 17 percent, and *II, an average of 9.5 percent. While *MNG has increased 16 percent on the average the standard deviation (SD) is a large 35 percent. With a SD of only 18.1 percent, *CLF's mean increase of 8.2 percent for the 61 county sample compares with an unweighted Alabama statewide estimate of 11.5 percent. In Mississippi the increase was 5.8 percent and in Georgia, 25.7 percent. *MI for the 61 counties, unadjusted for inflation, shows an average 106.3 percent increase during the 1960s. The statewide Alabama increase was only 84 percent, less than either Georgia (94 percent) or Mississippi (110.5 percent). The Mississippi median income in 1970 was still about \$1200 less than the Alabama income of \$7266.

Rates-of-change in the three dimensions of industrialization (*MNG, *CLF, and *MEB) are all negatively correlated, but at low levels ranging

from a $-.16$ to a $-.21$. This suggests that they represent distinctly different dimensions of industrialization. All three are more highly correlated with one or both of the income variable than they are among themselves. *MEB has a $-.20$ correlation with *MI and a $.34$ correlation with *II. *MNG is highly correlated with *MI ($.46$), but only slightly related to *II ($-.12$). *CLF has a $-.24$ correlation with both *MI and *II. As expected *MEB is more sensitive to *II and *MNG to *MI, but *CLF has equal association with both. *MI's correlation with *II ($-.43$) is the most negative (Table 1).

Correlations among the 1960 levels of each variable (logs) range from a $-.85$ between MI60 and II60 to a $.77$ between CLF60 and MI60. The smallest correlations are among the initial levels of the predetermined variables: MEW60 with MNG60 ($.36$) and CLF60 ($.32$). Except the correlations with II60, all are positive (Table 2).

In Table 3, it appears that the correlations of the initial values of the industrialization dimensions have stronger correlations with *MI than do their respective change variables, thus confirming the importance Perry (1980) places on their inclusion. However, with *II, the industrialization change variables (*CLF, *IND and *MNG) are more highly correlated than the initial levels (CLF60 and MNG60).

The means and standard deviations of all variables appear to be reasonable values and the dimensions of industrialization, both initial levels and rate-of-change, are relatively uncorrelated among themselves, but more strongly related to the dependent income variables (Tables 1, 2 and 3).

Findings

A preliminary equation (not shown here) including rates-of-change and initial values for three demographic dimensions of industrialization--*CLF, *MNG, and *BME--yield nonsignificant elasticities by MEW60 ($-.003$ and $-.016$) and *MEB ($-.171$ and $.035$) for *MI and *II, respectively. The near negligible negative elasticity for *MI regressed on *MEB ($-.171$ and $t=1.67$), is possibly a function of a predominately white high technology labor force entering growth counties in the TVA region combined with a relatively slower exodus of blacks from low growth counties such as Mobile and rural South Alabama counties during the 1960s.

While the race coefficient appears to predict as expected, its effect is so small that its inclusion neither detracts significantly from the predictive power of *CLF or *MNG, nor increases the variance explained within this sample. Rather, the effect of MEW60 is coursed through *CLF with which it has a $.71$ correlation. Industrialization requiring large increases in *CLF have simply bypassed predominantly black counties. The hypothetical effect of racial discrimination on income distribution in the 1960s cannot be discounted by this data, but in the interest of parsimony the race variables are excluded from the equations discussed (Table 4).

In the equation predicting *MI, both 1960 level of industrialization indicators (CLF60 and MNG60) yield slightly positive elasticities, $.031$ and $.019$, respectively (Table 4). Only the first is larger than twice its standard error. Apparently, MI60 is accounting for all the negative correlation (Table 3) among MNG60, CLF60 and *MI. It yields a $-.53$ elasticity for *MI.

With the equation controlled for 1960 levels of *MI and its predetermined variables, *MNG and *CLF may be interpreted as agents-

of-change. *MI is seen to increase .47 of one percent for each one percent increase in *CLF and .13 of one percent for each one percent increase in *MNG.

With all other variables equal, a county that has a 10 percent faster *CLF than average (119% vs. 108% of the 1960 level) would be predicted to have a *MI of 4.7 percent more than average (216% vs. 206%). Alternately, if *MNG were 10 percent faster (127% vs. 116%), *MI would increase 1.3 percent (from 206% to about 209%).

Taking *MNG as an indicator of a capital investment dimension of industrialization, it is interesting to note that that *CLF impacts *MI about three to four times as much as does *MNG. This corresponds with the widely known fact that wages are about three-fourths of the national product, while one-fourth is about the share of property income (Samuelson, 1980:502). This isomorphy with widely known facts lends validity to these findings.

The responses of *MI to *CLF and *MNG are relatively inelastic (1.0) but nevertheless they are positive and several times the size of their standard errors (t-values). Therefore, it is concluded that the dimensions of industrialization examined in this sample have generally favorable impacts upon median family incomes.

Turning to the *II equation, also in Table 4, the initial values of income variable (II60 and MI60) combined with *MI to predict declining *II. The initial values of CLF60 and MNG60 have positive elasticities (.025 and .078, respectively) and predict slower declines or faster increases in *II. The agent-of-change variables, *CLF and *MNG, in an equation now controlled for their positive influence upon *MI, exhibit a positive impact upon *II. *MNG which might be expected to favor the industrialization for capitalization dimension (Figure 1) is the stronger effect (+.11) at about three times its standard error.

Similar to Perry's results (1980), the initial values of MI60 and II60 are strong predictors of declining *II while all industrialization initial values influence *II positively. Unlike the Kentucky data, the *IND variables, *MNG and *CLF, when controlled for *MI influence *II positively and *MI predicts declining *II.

Compared with alternatives in Figure 1, these outcomes match paths 2A and 2B for both agent-of-change indicators of *IND:

2A	*MNG	<u>.13</u>	*MI	<u>-.43</u>	*II Indirect	-.06
2B	*MNG	<u>.11</u>			*II Direct	+.11
2A	*CLF	<u>.47</u>	*MI	<u>-.42</u>	*II Indirect	-.21
2B	*CLF	<u>.034**</u>			*II Direct	+.03

Paths A and B segregate out those counties that have opposite relationships between *CLF and *II. Path A contains one intervening variable—*MI, but Path B represents a direct effect. Consistent with zero-order correlation ($r = -.43$), *II has a negative elasticity of ($b = -.43$) when regressed on *MI. The inverse relationship between *CLF and *II is coursed through path A. Multiplying the *MI yields an indirect inverse

effect of $-.21$ between *II and *CLF. The direct effect is nearly negligible ($b = .034$). This illustration suggests that the net effect of *CLF is a declining *II in most counties although a few counties appear to have a positive relationship between *CLF and *II without an intervening increase in *MI.

On the other hand, *MNG appears to be influencing slower decreases or faster increases in *II to a greater degree. The product of *MNG's indirect influence upon *II through *MI is about $-.06$ while its' direct influence is a $+.11$. While the outcome is mixed for both change agent variables, the net effects of *CLF appears to be that of influencing a more equal distribution of income in more counties than not, while the *MNG variable is influencing a concentration of incomes in more counties than not.

Discussion

These alternate outcomes face at least two alternate hypotheses--that of labor exploitation and that of efficient management being required for production (Keyfitz, 1981:85).

Since two outcomes are present, indirect negative effects on income inequality in some counties and direct positive effects in other counties, it is conceivable that labor forces in the later counties are being exploited. The persistence of income inequality in these counties may be due to the combination of a particularly immobile labor force clinging to the security of their home stead (fishing, farming and community plus their jobs, if and when available and needed) and a company or industry dominated power structure which manages to control competition for its labor force.

However, it is at least equally feasible that the scarce management hypothesis has found support in both sets of counties, in some counties management is particularly scarce and extra incentives are required and in other counties it is found in proportion to its need. As new labor forces are trained and supplies of management skills are brought back into balance, the direct positive effect between management intensity and rate-of-change in income inequality should fade. Remaining small or declining preverse coefficients would probably represent no more than normal friction in the labor force. Conversely, if labor remains unorganized and in surplus, but returns to management increase, the result could be an increasingly preverse relationship between management intensity and income inequality. If this relationship grows stronger over time, the exploitation hypothesis would appear increasingly plausible.

In the absence of evidence that management intensity and income inequality are correlated long term, the efficient management hypothesis would appear to find the most consistent logical and empirical support.

For this analysis the impacts of increasing inequality are interpreted as the result of a management-for-capitalization strategy, while impacts of decreasing inequality are viewed as the result of management-for-distribution strategy. In an open labor market, neither strategy is likely to prevail indefinitely at the expense of the labor force in many counties. This likely hood need not be guessed about, however. It is a researchable question. Counties can be typed and cross-classified and the probability that any set of county labor forces has been subjected long term to a management-for-capitalization strategy can be determined empirically. To these authors' systematic knowledge of what has happened seems to be a better guide to informed theory and hypotheses than is available in the development literature today.

TABLE 1: Means, standard deviations and pearsonian correlation matrix (LOG-LOG) for change levels of dimension of industrialization, income and inequality variables (61 Alabama Counties)

*Change levels	*MEB	*MNG	*CLF	*MI	*II
Mean	-17.091	16.045	8.194	106.308	-9.50
SD	10.257	35.126	18.126	26.444	4.52
*MEB ¹	1	-0.164	-0.212	-0.203	0.340
*MNG ²		1	-0.177	0.465	-0.116
*CLF ³			1	-0.241	-0.247
*MI ⁴				1	-0.432
*II ⁵					1

¹ percentage rate-of-change in black proportion of employed males. Census of Population 1960 and 1970.

² percentage rate-of-change in proportion of the employed labor force engaged in managerial positions. Census of Population 1960 and 1970.

³ percentage rate-of-growth in civilian labor force. Census of Population 1960 and 1970.

⁴ percentage rate-of-growth of median family income. Census of Population 1960 and 1970.

⁵ percentage rate-of-change in the Gini index of income inequality. Census of Population 1960 and 1970.

* Change levels are calculated based on logarithmic first inequality. However, the means and standard deviations are in raw data form.

TABLE 2: Means, standard deviation and Pearsonian correlation matrix (LOG-LOG) for initial levels of dimensions of industrialization, income and inequality variables (61 Alabama Counties)*

Initial levels	MEW60	MNG60	CLF60	MI60	II60
Mean	71.107	5.93	17676	3086.00	44.32
SD	19.207	1.41	32406	971.00	4.57
MEW60 ¹	1	0.361	0.319	0.693	-0.742
MNG60 ²		1	0.642	0.594	-0.362
CLF60 ³			1	0.765	-0.489
MI60 ⁴				1	-0.854
II60 ⁵					1

¹ percent of male employed that are white based on total male employed. Census of Population 1960 - Log normal.

² percent of managers based on employed civilian labor force. Census of Population 1960 - Log normal.

³ civilian labor force ages 16 thru 65. Census of Population 1960 - Log normal.

⁴ Median family income. Census of Population 1960 - Log normal.

⁵ Gini index of income inequality. Census of Population 1960 - Log normal

*Six (6) Alabama counties had fewer than 400 black population 1960 and 1970 and they are not included in the analysis.

TABLE 3: Pearsonian correlation matrix (LOG -LOG) between the independent variables (initial levels, change levels in dimensions of industrialization) and the dependent rate-of-change variables (income and income inequality-Gini Index).

Independent Variables \ Dependent Variables	MEW60	*MEB	MNG60	*MNG	CLF60	*CLF	MI60	*MI	II60
*MI	-0.479	-0.203	-0.507	0.465	-0.674	-0.241	-0.837	1.000	0.765
*II	0.036	0.340	0.122	-0.116	0.156	-0.247	0.133	-0.432	-0.364

TABLE 4: Industrialization impacts (*CLF and *MNG) upon income and income inequality, 1960 to 1970: A multiplicative model.

Dependent Variables: Elasticities*** (t-values)		
Predetermining Variables	*MI	*II
+CLF60	0.031 (2.54)	0.025 (2.31)
*CLF	0.471 (9.76)	0.034 (0.55)**
+MNG60	0.019 (0.55)**	0.078 (2.92)
*MNG	0.132 (2.72)	0.112 (2.80)
+MI60	-0.525 (-14.81)	-0.347 (-5.10)
*MI	-	-0.425 (-4.10)
+II60	-	-0.593 (-6.27)
Constant	4.450 (19.42)	4.766 (6.49)
R ² (adj)	0.897	0.603
Variance	0.167 x 10 ⁻²	0.976 x 10 ⁻³
F-Value (d.f.)	106.25 (5,55)	14.04 (7,53)

+Log normal

*Logarithmic first difference (1970-1960) equal to, e.g., MI70/MI60

**t-values not significant at .05 level

***Percentage changes in the rates-of-change of *MI (MI70/MI60) and *II (II70/II60) resulting from 1% change in the predetermining variables.

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COMPONENTS OF AN EFFECTIVE COUNTY
EXTENSION ADVISORY COMMITTEE

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and

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A major strength of Cooperative Extension Service is said to be its involvement of people in the program development process (Lawrence et al., 1974). Voth (1981) classifies Extension's approach to citizen involvement as administrative participation because Extension staff — and not local people — are expected to take the initiative for citizen participation in program development. As such, Extension staff have substantial influence in determining the type and intensity of citizen involvement.

Within the Cooperative Extension Service, it is the county Extension agent who has the primary responsibility for mobilizing the citizenry to participate in the planning of Extension educational programs. Agents generally utilize an advisory committee as the vehicle for involvement of citizens in planning Extension programs.

In reviewing the recent national evaluation of the Cooperative Extension Service (SEA-Extension, 1980), Voth (1981) found little evidence on the effects of citizen participation in community resource development or in the other program areas of Extension. He adds that this omission is evidence of need for serious research efforts on Extension citizen participation.

While there are many areas of the participatory process that require systematic examination, the commitment of the professional to the program development process is of major importance (Yoder, 1981). In addition, Cole (1980) cautions that even if an Extension Advisory Council is representative of people and their needs, unless the council is given the necessary information and training to carry out its duties, the council's potential for community improvement will not be realized. For an advisory committee to be effective, Cole contends that three basic components must be present: (a) structural components which refers to the general framework of the committee — the legalities and technicalities, (b) programming skill components which refer to the actual work of the committee and, (c) group process skill components which address these questions: How do people feel about being on the committee? How do they react and relate to one another? An absence of or weakness in any of the three areas will result in an ineffective committee.

It is the intention of this study to determine the extent to which Extension agents responsible for county program planning perceive these three basic components to be present among county Extension advisory committees and to examine the relationship between these components and the level of committee and citizen involvement in program planning. Guidelines developed by Raudabaugh (1963) for Extension program development and evaluation provide the basis upon which each component will be measured.

DEFINITION OF TERMS

The structural component provides the general framework in which an advisory committee conducts program planning of Extension educational programs. Seven recommended program planning practices (Raudabaugh, 1963) are utilized in measuring the structural component. The recommended practices state that an advisory committee should:

1. include a balance in age, income levels, geographic distribution and minorities;
2. represent the various interests and needs within the county;
3. analyze significant problems and pass judgement upon the solution;
4. be provided with relevant data about the county and other background information to review;
5. be provided with complete minutes of advisory committee meetings;

5. evaluate both the content and process of its activities; and
7. follow a time schedule to do planning through the year.

The programming skill component refers to the ability of the advisory committee in:

1. deciding priority needs,
2. setting goals and objectives,
3. planning appropriate jobs,
4. evaluating educational programs, and
5. disseminating educational information.

The group process skills component refers to the interaction patterns of the advisory committee and is measured by the following items:

1. level of satisfaction of county chairman with composition of the advisory committee;
2. comfortability of the Extension staff in working with the advisory committee;
3. level of confidence and trust of the county chairman in the advisory committee to help plan programs;
4. the committee members' feelings about being a part of Ohio Cooperative Extension Service;
5. reactions and relationships of committee members with one another.

Citizen involvement is concerned with the type and intensity of committee participation in the program planning process and is measured by the extent to which:

1. advisory committee members assist in informing people about Extension Service, its purpose, organization, education programs, operational procedure, and needs;
2. advisory committee members assist in deciding programs;
3. advisory committee members assist in implementing programs;
4. advisory committee members assist with program evaluation;
5. advisory committee members and/or other local people are involved in the assembly and collection of data needed for program planning;
6. relevant groups, organizations, and agencies are identified and encouraged to coordinate plans on common problems;
7. advisory committee members and others are involved in the analysis and interpretation of basic facts, the preparation of situational statements, and in the identification of needs and problems of people of the county;
8. advisory committee members bring new ideas and constructive opinions to committee meetings.

OBJECTIVES

The specific objectives of this study are as follows:

1. to measure agent perceptions of the extent to which a structural framework for program planning is followed;
2. to measure agent perceptions of the extent to which the advisory committee and other local citizens are involved in the program planning process;
3. to measure agent perceptions of program planning skills;
4. to measure agent perceptions of group process skills of advisory committees;
5. to examine the relationship between citizen involvement and the structural component, group process skill component, and programming skill component of advisory committees.

SOURCE OF DATA

The Extension Agent chairmen in the 88 Ohio counties provided the target population of this study. The county chairmen were selected for the analysis because their responsibilities involve coordinated efforts to plan and carry out programs in the areas of agriculture, 4-H work, home economics and community and natural resource development at the state, area and local level. County chairmen also work closely with their county Extension advisory committees in planning extension programs.

The primary data needed for this study were generated through the use of mail questionnaires following the total design method (Dillman, 1978). Out of 88 questionnaires mailed, 87 (98.9 percent) were returned. Because one was incomplete, 86 questionnaires will be used in this study.

The data from the 86 respondents were analyzed utilizing the facilities of the Instruction and Research Computer Center of The Ohio State University. The Statistical Package for the Social Sciences (1975) program was used for the analysis.

MEASUREMENT

To measure agent perceptions of each component and citizen involvement, each county chairman was asked to indicate the extent to which the activities listed in the definition of terms section were being followed. Possible responses to each activity ranged from one (to a very small extent) to five (to a very great extent). Each agent's responses were summed for activities by component and a mean score was calculated. In addition, Cronbach's alpha was computed for each component.

FINDINGS

Respondent Perceptions of the Extent to Which Structural Component Exists Among Advisory Committees

The first objective was to measure agent perceptions of the extent to which the structural framework component exists among county advisory committees. This was accomplished by asking county chairmen to indicate the extent to which the seven selected program planning practices listed in the definition of terms section were being followed.

The composite scores, depicted in Table 1, ranged from 1.9 to 4.4 with a mean of 3.2 and a standard deviation of .5. Cronbach's alpha was used as a measure of reliability of the scale and had a value of .72. For descriptive purposes, composite scores were categorized into small extent, some extent and great extent. The small extent category included scores ranging from 1 (minimum score possible) to 2.5. To some extent included scores ranging from 2.6 to 3.5 while the great extent category included scores ranging from 3.6 to 5.0 (highest score possible).

(Table 1 about here)

Based on this scoring procedure, approximately three-fourths of the agents perceived that they followed a structural framework for program planning to some extent. Nearly twelve percent of the agents believed that they followed a very well-defined structural framework while fourteen percent of the agents indicated that, to a small extent, they follow a structural framework that guides program planning practices.

Citizen Involvement in Program Planning

The second objective was to measure agent perceptions of the extent to which the Extension advisory committee and other local citizens are involved in the program planning process. Citizen involvement was measured on the eight activities listed in the definition of terms section.

The composite scores, presented in Table 2, ranged from 1.4 to 3.9 with a

mean of 2.3 and a standard deviation of .5. Cronbach's alpha was used as a measure of reliability of the scale and had a value of .78. For descriptive purposes, composite scores were categorized into three categories; small extent (1.0 - 2.5), some extent (2.6 - 3.5) and great extent (3.6 - 5.0).

(Table 2 about here)

Following this scoring procedure, 26.7 percent of the agents rated advisory committees and other local citizens as being involved to a small extent in the total program planning process. The majority (62.8 percent) of the agents thought that their advisory committees and other local citizens were involved to some extent in the total program planning process. Finally, 10.5 percent of the agents indicated that advisory committees and local citizens were involved to a great extent in the total program planning process.

Program Planning Skills of Advisory Committees

The third objective of this study was to measure agent perceptions of program planning skills of advisory committees. The programming skills of advisory committees were determined from the five activities listed in the definition of terms section.

The actual scores are presented in Table 3, and ranged from one to five and had a standard deviation of .6. Cronbach's alpha was used as a measure of reliability of the scale and had a value of .33.

(Table 3 about here)

Based on this scoring procedure, over one-fourth of the agents rated their committees as being able to perform programming skills to a small extent. Conversely, approximately ten percent rated committees as being able to perform programming skills to a great extent. The majority of the agents (62.8 percent) rated committees as being able to perform programming skills to some extent.

Group Process Skills of Advisory Committees

The fourth objective was to measure agent perceptions of the interaction patterns (group process skills) of the advisory committees. Measurement of group process skills were based on the five items listed in the definition of terms section.

Agent scores ranged from 2.4 to 4.3 and had a standard deviation of .5. The degree of reliability of the scale as measured by Cronbach's alpha was .71. As illustrated in Table 4, 11.6 percent of the agents indicated that their advisory committees react and relate to other members of the committee and to the professional staff to a great extent. Conversely, only 7 percent indicated the interaction patterns exist to a small extent.

(Table 4 about here)

Relationship Between Citizen Involvement and Structural Component, Group Process Skill Component and Committee Programming Skill Component

The fifth objective, and the major purpose of this study, was to examine the relationship between citizen involvement and the three components thought to be necessary for a planning committee to be effective — structural, programming skills and group process skills. Relationships between each of these variables are depicted in the Spearman rank-order correlation matrix presented in Table 5. The strongest relationship was found to exist between citizen involvement in program planning and ability of the committee to help perform programming skills. The positive correlation coefficient of .621 indicates that as committee and citizen involvement in planning increases so do agent rating of the ability of the committee's programming skills. Committee and citizen involvement also were found to be positively related to

both group process skills (.556) and to the extent to which the structural framework exists for program planning practices (.598).

(Table 5 about here)

Although this study was not designed to determine whether an increase in one variable caused an increase in the value of a second variable, it would seem logical that program and group process skills of particular advisory committees are more apt to increase in an environment where the county follows an established planning procedure. In addition, the higher the ability of the advisory committee, the more likely the committee to be involved in the planning of educational programs.

This conclusion is further supported by the remaining values in the correlation matrix. That is, following of recommended program planning practices (structural component) is positively related to group process skills (.539) and programming skills (.525). Finally, rating of group process skills is positively related to programming skills (.574).

SUMMARY

The findings of this study may be summarized as follows:

1. the vast majority of Ohio county agent chairmen believe the basic components necessary for effective program planning committees to be present to some extent among their county Extension advisory committees
2. The ability of advisory committee members to perform programming skills was found to be positively related to the extent to which a structural framework exists for program planning.
3. The group process skill component present in the planning group was found to be positively related to the extent to which the structural framework exists for program planning.
4. The group process skills present in the planning group were found to be positively related to the extent to which the advisory committee members were involved in the program planning process.
5. The ability of advisory committee members to perform programming skills was found to be related to the extent to which the members were involved in the program planning process.

CONCLUSIONS AND RECOMMENDATIONS

The major purpose of this study was not to measure the extent to which county agents were following recommended practices. Rather, the major purpose was to analyze the relationship between citizens involvement in program planning and the extent to which basic components of an effective committee are present.

The findings of this study support the views of Cole that an active advisory committee is characterized by a structural framework to guide its activities, includes members who interact and relate to each other and to Extension, and possess the ability to meet program planning requirement. In other words, the presence of all three components increases the likelihood that a county will have an active, effective advisory committee.

Based on the findings and conclusions of this study, the following recommendations are offered:

1. the Cooperative Extension Service should ensure that each county Extension agent chairman thoroughly understand the components necessary for planning committees to be effective.

2. Extension advisory committee members and other local citizens should have a thorough understanding of recommended county program planning procedures.
3. The effectiveness of advisory committee members in performing program development functions is influenced largely by the group process skill components of the planning group. Therefore Cooperative Extension Service should ensure that recommended procedures be followed in the selection of advisory committee members.

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Table 1

Distribution of Composite Scores on the Following of Recommended Practices for Program Planning.

Composite Score	Number	Percent
Small Extent (1.0 - 2.5)	12	14.0
Some Extent (2.6 - 3.5)	64	74.4
Great Extent (3.6 - 5.0)	10	11.6
TOTAL	36	100.0

Mean = 3.2 SD = .5 Cronbach's alpha = .72

Table 2

Distribution of Composite Scores of Citizen Involvement in the Program Planning Process.

Composite Scores	Number	Percent
Small Extent (1.0 - 2.5)	23	26.7
Some Extent (2.6 - 3.5)	54	62.8
Great Extent (3.6 - 5.0)	9	10.5
TOTAL	86	100.0
Mean = 2.8 SD = .5 Cronbach's alpha = .78		

Table 3

Distribution of Composite Scores of Programming Skills of Advisory Committee Members.

Composite Score	Number	Percent
Small Extent (1.0 - 2.5)	23	26.7
Some Extent (2.6 - 3.5)	54	62.8
Great Extent (3.6 - 5.0)	9	10.5
TOTAL	86	100.0
Mean = 3.1 SD = .6 Cronbach's alpha = .93		

Table 4

Distribution of Composite Scores of Group Process Skills of Advisory Committees.

Composite Score	Number	Percent
Small Extent (1.0 - 2.5)	6	7.0
Some Extent (2.6 - 3.5)	70	81.4
Great Extent (3.6 - 5.0)	10	11.6
TOTAL	86	100.0

Mean = 3.6 SD = .5 Cronbach's alpha = .71

Table 5

Spearman Rank-Order Correlation Coefficient Matrix of Relationships Between Citizen Involvement and Components of an Effective Committee.

Variables	Correlation Coefficients			
1. Committee and citizen involvement	<u>1</u>			
2. Following recommended practices	.598	<u>2</u>		
3. Group process skill components	.556	.539	<u>3</u>	
4. Ability to implement programming skills	.621	.525	.574	<u>4</u>

N = 86

**Contextual Accountability For Change Programs
A Discrepancy Approach***

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Contextual Accountability for Change Programs: A Discrepancy Approach

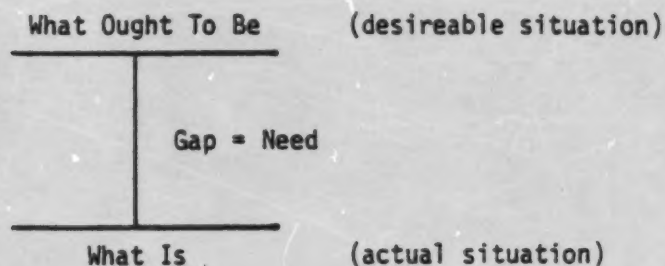
Background

During periods of increasing financial conservation, the demand for detailed and comprehensive accountability for governmental expenditures dramatically increases. Funding bodies, caught between escalating demands for funds on the one hand and proportionally shrinking revenues on the other, are faced with difficult decisions in attempting to maintain fiscal balance. With the public outcry against additional taxation, it is only natural that funding authorities begin to look with critical eye at programs in which there is some latitude for financial adjustment. Currently, and historically, such examinations are often focused within the social and educational realms.

The Cooperative Extension Service is a case in point. With its tripartite funding arrangement, the Extension Service is receiving increased scrutiny at county, state, and Federal levels. Participation data and clientele testimonials are becoming increasingly inadequate as primary means of accountability. Funding agencies are asking for more concrete evidence of organizational stewardship, focusing not only on the consequences of programs, but also on their contextual basis, i.e., rationale and projected significance. The questions of "what specifically are you attempting to do" and "why are you doing it" are being asked more and more. Yet, in many instances, statements of programs fail to provide clear answers to their questions. Reviews of county plans of work and other Extension documents having an accountability nature reveal in many cases incomplete delineation of the contextual basis for the programs developed.

Purpose and Conceptual Basis

The purpose of this paper is to propose a schema for developing and describing a program rationale that will serve as an effective means of contextual accountability. The schema presented is an adaptation of the concept of "need" as developed by Tyler (1963) and further expanded by Leagans (1964). The concept views change programs as arising from a discrepancy between a present situation or "status quo" (what is), and a new or changed set of conditions assumed to be more desirable (what ought to be). This discrepancy or "gap" is illustrated as follows:



In the concepts of Tyler and Leagans, the efforts of change programs are focused on and designed for reduction or elimination of the discrepancy depicted. Both authors point out the importance of utilizing carefully selected and validated data in determining the discrepancy. Leagans emphasizes that care should be taken to avoid incorporating masses of data that defy useful analysis and to assess the value or significance of the discrepancy identified relative to other potential needs for which the same program resources could be allocated.

A Proposed Schema

A proposed schema for a comprehensive statement of the contextual basis or rationale of change programs is presented in Figure 1. The schema consists of five sequential categories of information relating to a specific area of program concern and a specific target audience. Its essential focus is that of delineating the existence of a discrepancy between a current condition and a more desirable one, establishing the significance of reaching the more desirable state, and identifying reasons why the situation exists. A central assumption underlying the schema is that it is possible and feasible to identify that which is asked for within each of the categories, and that in doing so contextual accountability is strengthened.

Schema categories, expressed in the form of questions, are as follows:

1. What is the present condition or state of affairs of the specific target audience relative to the specified program area of concern?

Here information is provided which delineates the present status of the target audience relative to a specific economic, social, or cultural area of concern. In agriculture this might be level of net income, or yield, for a particular commodity (economic). In family living the concern might have to do with some aspect of family relations such as child abuse (social). In youth programming the concern might focus on tolerance for minorities (cultural). In community development, quality and quantity of available services for a specific community might be the area of focus (economic and social).

2. What is the more desirable condition or state of affairs for which there is a "realistic potential" for accomplishment?

This category of the schema calls for a statement of the "realistic potential" for the target audience relative to the specific area of concern, thereby establishing a discrepancy situation. "Realistic potential" implies that in delineating the level to be strived for, economic, social, and cultural factors potentially influencing the rate and degree of change of the target group are taken into consideration, along with available research and other information on reasonable expectations of performance within the area of concern. The realistic potential might be an increase in yield or net income in agriculture (economic), a reduced level of child abuse in low income families (social), lower levels of youth incidents with minority groups (cultural), or increased quality or quantity of services within a specific community or area (economic and/or social).

A Schema For Describing The Contextual Basis For Change Programs

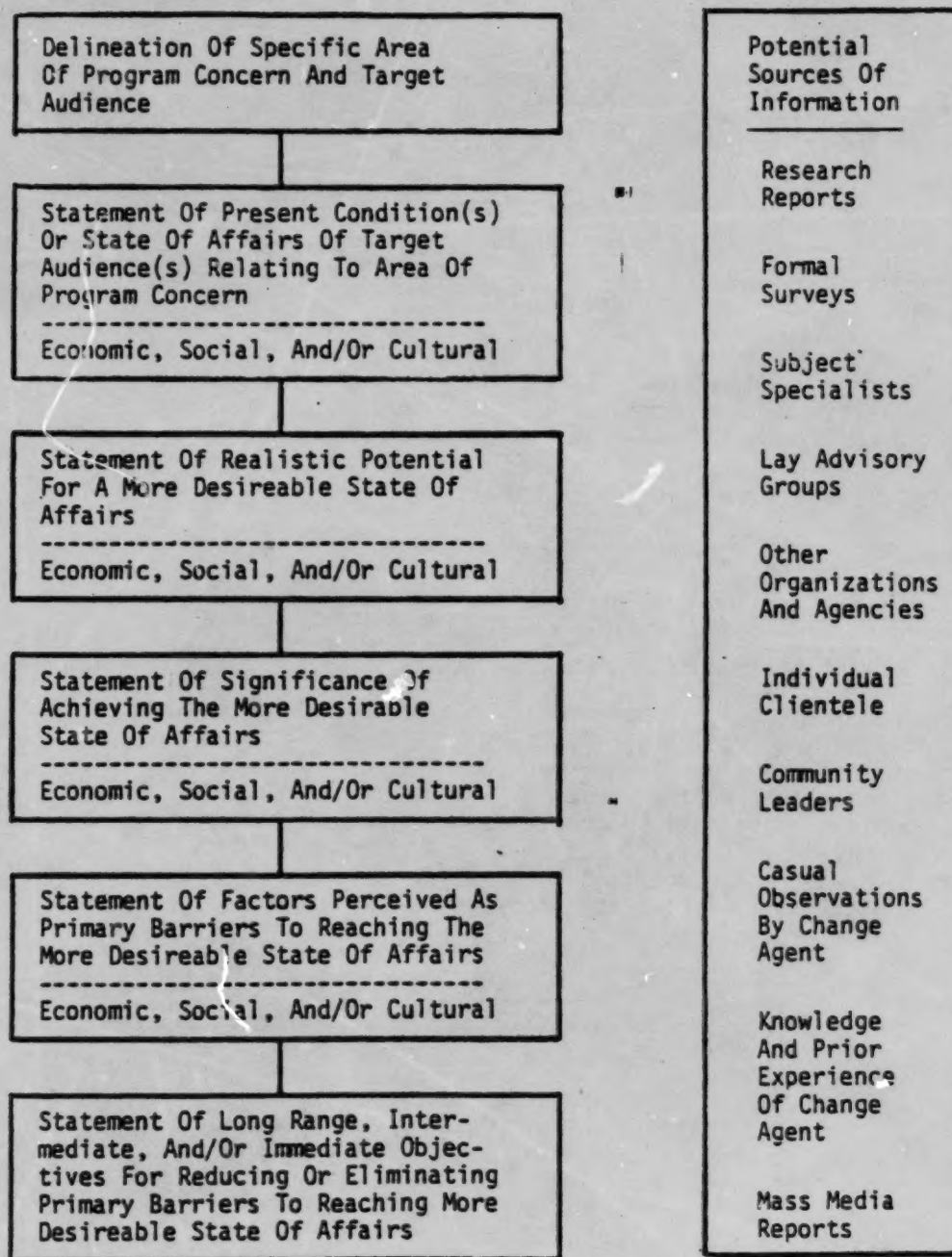


Figure 1

3. What is the significance of the target audience reaching the more desirable state of affairs?

Significance is established by comparing the realistic potential with the current state of affairs, and estimating the economic, social, and/or cultural consequence of the change. For example, if the perceived difference is 10 bushels of soybeans per acre, how does this translate into increased income or profit to the average producer, all producers, to the agricultural community, to the county, and/or other relevant groups or units? If estimates reveal a realistic potential for a 20 percent reduction in cases of child abuse, how does this translate into social and/or economic impact to families, governmental agencies, and others in the community? The same type of information would be presented for all program areas and target audiences addressed by a change program.

4. Why is the target audience not already at the more desirable state of affairs for which there is a realistic potential?

The response to this question not only contributes to contextual accountability, but also provides the foundation for the specific design of the change program. The question seeks to identify significant barriers preventing the target audience from realizing their realistic potential. The barriers may be of many types, such as economic, social, psychological, educational, or organizational. The change agent may need to draw on a variety of informational resources in attempting to identify as accurately as possible major factors inhibiting clientele change to the new level.

5. What are the essential program objectives that must be reached if target clientele are to achieve the more desirable state of affairs?

We perceive the overall or long range objective for the specific program to be that of achieving the realistic potential identified, i.e., closing the gap between present conditions and the more desirable state of affairs. However, we perceive those factors identified as significant barriers to achieving the overall objective as forming the basis for a series of "essential" intermediate objectives focusing on the barriers' reduction or elimination. For example, if a perceived barrier is lack of awareness by a specific clientele of a particular practice, then a corresponding objective would be that the target clientele would become aware of the practice. If a major barrier is identified as lack of a particular skill, then a corresponding objective would be that the target clientele acquire the necessary skill. Theoretically, through the composite accomplishment of the essential intermediate objectives the overall objective would be reached, and the "gap" closed. The statement of the essential intermediate objectives would conclude the documentation for contextual accountability.

Sources of Information

The proposed schema suggests several potential sources of information each with the potential of contributing to any or all categories (Figure 1). We suggest an attempt to utilize as many information sources as possible in development of each category. We also suggest that these be identified. By doing so, we feel that the validity of the data provided is strengthened, and that the aspect of accountability is enhanced in the eyes of those sitting in judgement of the program.

Summary

The proposed schema represents an attempt to develop a systematic approach to providing information pertinent to contextual accountability of change programs. We feel that the approach delineated is a positive and useful step in this regard. In describing as accurately as possible the discrepancy between "what is" and "what could/should be", the significance of reaching the more desirable state of affairs, and the objectives for reducing perceived barriers to accomplishment of the proposed change, it would appear that the questions of "what are you doing" and "why are you doing it" are largely answered. In addition, we feel a sound basis for further program design has been established.

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THE EFFECTIVENESS OF THE DELIVERY OF
AGRICULTURAL INFORMATION AS PERCEIVED BY
THE LIMITED RESOURCE FARMERS IN THE BLACK BELT
COUNTIES OF ALABAMA

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INTRODUCTION

Finding effective ways of communicating relevant information to farm families has always been a major concern to extension workers. Several studies have been conducted to determine the effective modus operandi of delivery systems, and most of these studies have indicated the effectiveness of a delivery system may differ from one situation to another depending on the cultural background, educational and socio-economic status of the clientele to be served. To this effect, the thesis of this study, is to investigate the delivery of agricultural information to limited resource farmers, and to determine the relationships of selected demographic variables and the sources of information.

The objectives of the study were:

1. To determine what channels the limited resource farmers in the Black Belt Counties of Alabama use to get their agricultural information.
2. To determine what methods or channels the farmers perceive as effective in receiving agricultural information to run their enterprises.
3. To determine the relationship of selected demographic variables and the sources of agricultural information they perceive effective.

Based on the objectives of the study, the following null hypotheses were developed and analyzed.

1. There is no significant difference between the age of the farmer and the way the delivery of agricultural information is perceived as effective.
2. There is no relationship between the type of enterprise ran by a farmer and the way agricultural information is perceived as effective.
3. There is no significant relationship between the income of a farmer and the effective way of receiving agricultural information.
4. There is no significant relationship between the level of education attained by a farmer and the effective way of receiving agricultural information.

*Paper presented at the Annual Meeting of the Southern Association of Agricultural Scientists, February 7-10, 1982, Orlando, Florida.

5. There is no difference between the social stratum of a farmer and the way agricultural information is perceived as effective.

PROCEDURES AND METHODOLOGY

The total population in this study was 4600 "limited-resource farmers," i.e., farmers with an annual gross sale income of \$5,000 and less from Barbour, Bullock, Macon, Montgomery, Lowndes, Wilcox, Dallas, Perry, Hale, Green, Sumter, and Marengo counties of Alabama.

A sample of 110 farmers was selected (ten from each county) by the assistant county agent according to his itinerary of the farmers to be visited in a 5-day period. (Usually, an assistant county agent visits at least 20 farmers in a 5-day period.

Questionnaire was used to collect the data for the study. It was divided into 5 sections: (1) personal data (2) economic data (3) educational data, (4) social data, and (5) sources of agricultural information. The questionnaire was pretested to establish its validity and the data were collected by the researcher with the help of extension field staff. Ninety-five questionnaires (86.36%) were returned.

The dependent variables used were the (1) Sources of Agricultural Information, i.e., (a) Printed Media (Newspapers, Magazines, Bulletins, Circulars), (b) Personal Contact (Extension Agents, Commercial Dealers, Friends, Neighbors, Relatives), (c) Radio and Television. The independent variables were Age, Type of Farming or Enterprise, Income, Education, Religious Affiliation and other organizations that the farmers belonged.

The respondents were to indicate by checking () the different sources (channels) from which they receive their agricultural information.

Statistical Treatment of the Data

Two methods of statistical analysis were used:

1. Standard chi-square test was used to find the relationships between variables at probability levels of $p = .05$ and $p = .01$.
2. All descriptive data were analyzed using percentages.

FINDINGS

Descriptive Statistics for Selected Demographic Variables:

- o Of the 95 respondents, 87 were male and the remaining 8 were females.
- o The largest number of the farmers (33.68%) were within the 50-59 year category and 25.26% in the 60 and over category.
- o 76.84% of the respondents were married.

- o 82.10% of the respondents have from 0-4 dependents and 17.9% have from 5-11 dependents.
- o 32.63% of the respondents were full-time farmers and the remaining 67.37% were part-time. About 69.47% of the respondents were engaged in both livestock and crop farming, 12.64% in crops and the remaining 17.89% in livestock.
- o (72.63%) of the farmers own the land that they farm and only 15.70% rent.
- o 88.30% of the respondents own the houses they live in and 11.70% rent.
- o Nearly half (47.37%) of the respondents stated they had been in farm operation for over 20 years.
- o 24.47% of the farmers made \$999 or less a year, 11.70% made between \$4,000 and \$5,000 a year, and the 63.83% made between \$1,000 and \$3,999 a year.
- o 35.79% indicated that they had their wives/husbands and children to help them and 14.74% indicated that they had their wives/husbands help them.
- o 14.89% had completed Grades 1-6, 27.66% had completed grades 7-9, 42.55% had completed grades 10-12, and 14.89% had over 12th grade education.
- o 69.15% of the respondents were Baptist, 17.02% were Methodist, and 6.38% were Catholic.
- o 7.45% of the respondents belonged to the Mason, 29.79% belonged to two or more other organization.

Source of Agricultural Information

The 10 sources of agricultural information specified on the questionnaire were the same sources that the respondents indicated they got their information. Almost all respondents depend on the Extension Agents for information.

Age and Sources of Agricultural Information

About 69% of the respondents between the ages of 40 and 60 years and over receive their agricultural information from magazines and about 82% from Extension Agents. With those under 40 years, 80% receive their agricultural information from Circulars and 98% from Extension Agents.

Type of Farming and Agricultural Information

Sixty-five percent (65%) of crop farmers and farmers who practice both crops and livestock receive their agricultural information from Magazines and 83% from Extension Agents. Seventy-six percent (76%) of livestock farmers receive their agricultural information from Bulletins and 94% from Extension Agents.

Income and Agricultural Information

Those respondents who were in the \$4,000-\$5,000; \$3,000-\$3,999; and \$999 or less income categories receive their agricultural information from magazines (82%, 78% and 56%, respectively) and from Extension Agents, 90%, 79% and 78%, respectively. However, 70% of the respondents in the \$2,000-\$2,999 income category receive their agricultural information from Bulletins and 95% from Extension Agents; and those in the \$1,000-\$1,999 category receive their agricultural information from Newspapers and 100% from Extension Agents.

Education and Agricultural Information

Respondents who had completed grade 1-6 and grade 7-9 get their agricultural information from magazines (64% and 81%, respectively); and from Extension Agents 64% and 81%, respectively. Those who completed grades 10-12 receive their agricultural information from circulars (60%) and Extension Agents 97%. Those who had completed over 12 grade of school receive 64% of their agricultural information from each of the sources of the printed media and 93% from Extension Agents.

Social Status and Agricultural Information

Most of the respondents irrespective of their religious affiliations get their agricultural information from Magazines (65%) and Extension Agents (86%).

Age and Agricultural Activities

The highest number (87%) of the respondents of all ages attend meetings and the lowest number only 40% attend Exhibits/Fairs (40%).

Type of Enterprise and Agricultural Activities

The highest number (78%) of respondents irrespective of the types of farming attend meetings. The lowest number of crops and livestock farmers attend tours (33% and 47%, respectively). The lowest number (48%) of both (crops and livestock combined) farmers attend exhibits/fairs.

Income and Agricultural Activities

The highest number of respondents (80%) irrespective of income attend meetings. The lowest number of respondents in the \$4,000-\$5,000, \$2,000-\$2,999 and \$999 or less income categories attend exhibits/fairs (36%, 40%, and 26%, respectively). The lowest number (36%) of respondents in the \$3,000-\$3,999 category attend workshops; and those in the \$1,000-\$1,999 category only 33% attend exhibits/fairs and tours.

Education and Agricultural Activities

The highest number (79%) of respondents irrespective of education attend meetings. The lowest number of respondents who had completed grade 1-6 (20%) and 7-9 (15%) attend exhibits/fairs. The lowest number of respondents who had completed grade 10-12 attend workshops (43%) and the lowest number (50%) of respondents who had completed over grade 12 of school attend exhibits/fairs and tours.

Religion and Agricultural Activities

The highest number of respondents who are Baptist and Methodist attend meetings (82% and 60% respectively). The lowest number of Baptist attend exhibits/fairs (35%) and workshops (55%). The highest number of others (77%) attend meetings and demonstrations and the lowest number (36%) attend exhibits/fairs and workshops.

CONCLUSIONS

From the findings of this study, the following conclusions were reached based on the null hypotheses tested.

Age

- 1a. There are no significant differences between the age of the farmers and whether or not they receive agricultural information from Newspapers, Magazines, Bulletins, Extension Agents, Commercial Dealers, Friends, Neighbors and Radio and Television.
- 1b. There is a significant difference between the age of the farmers and whether or not they receive agricultural information from circulars.
Less farmers of 60 and over, receive information from circulars and more farmers under 40 years receive agricultural information from circulars.
- 1c. There is a significant difference between the age of the farmers and whether or not they receive agricultural information from relatives.
Less farmers of 60 and over and 40-49 years, do not receive agricultural information from relatives. More of the farmers under 40 years of age receive agricultural information from relatives.

Type of Farming or Enterprise

- 2a. There are no significant relationships between the type of farming and whether or not the farmers receive agricultural information from Newspapers, Magazines, Extension Agents, Commercial Dealers, Neighbors, Relatives and Radio and Television.
- 2b. There is a significant relationship between the type of farming and whether or not the farmers receive agricultural information from circulars.
More livestock farmers receive agricultural information from circulars than crops and both (crops and livestock combined) farmers.
- 2c. There is a significant relationship between the type of farming and whether or not the farmer receive agricultural information from friends.
More livestock and both (crops and livestock combined) farmers receive agricultural information from friends than crop farmers.

Income

- 3a. There are no significant relationships between the income of the farmers and whether or not they receive agricultural information from Newspapers, Magazines, Bulletins, Circulars, Extension Agents, Friends, Neighbors, Relatives and Radio and Television.
- 3b. There is a significant relationship between the income of the farmers and whether or not they receive agricultural information from Commercial Dealers.
More of the farmers who make from \$2,000-\$5,000 get their agricultural information from Commercial Dealers than those farmers who make less than \$2,000 a year.

Education

- 4a. There are no significant relationships between the level of education of the farmers and whether or not they receive agricultural information from Newspapers, Magazines, Bulletins, Circulars, Commercial Dealers, Friends, Neighbors, Relatives and Radio and Television.
- 4b. There is a significant relationship between the level of education of the farmers and whether or not they receive agricultural information from Extension Agents.
Most of the farmers in the Grade 1-6 category do not receive agricultural information from the Extension Agents. Most of those who have completed Grade 7 and over receive agricultural information from Extension Agents.

Social

- 5a. There are no significant differences between the religious affiliation of the farmers and whether or not they receive agricultural information from Newspapers, Magazines, Bulletins, Circulars, Extension Agents, Commercial Dealers, Friends, Relatives and Radio and Television.
- 5b. There is a significant difference between the religious affiliation of the farmers and whether or not they receive agricultural information from Neighbors.
Most Baptist church members receive agricultural information from their Neighbors. Half of the number of Methodist church members receive agricultural information from their Neighbors. Less number of farmers who belong to other churches do not receive agricultural information from their Neighbors.

Agricultural Activities

There was no indication that age is a factor in deciding whether farmers attend agricultural activities or not.

More livestock farmers attend workshops than either crops or both (livestock and crops combined) farmers.

More farmers whose annual income is from \$2,000-\$2,999 attend meetings than the farmers in the rest of the income categories. There were no significant relationships between the farmers' income and the rest of the agricultural activities.

There was a significant relationship between the level of education of the farmers and whether or not they attend Exhibits/Fairs. Most of the farmers who have completed Grade 7-9 do not attend Exhibits/Fairs, however, most of the farmers who have completed Grade 10-12 attend Exhibits/Fairs. There were no significant relationships between the level of education of the farmers and the rest of the agricultural activities attended.

There were no significant relationships between the religious affiliation of the farmers and the agricultural activities attended.

IMPLICATIONS

The limited resource farmers strongly perceive in getting their agricultural information from the following sources or channels as effective-- Extension Agents, Commercial Dealers, Magazines, Bulletins, Circulars and Friends/Neighbors. Newspapers fluctuate as one of the most important, and also as one of the least important sources which they perceive effective in running their enterprises, as indicated by some of the farmers. Relatives, Radio and Television are the least important sources of receiving agricultural information as indicated by the farmers themselves. Television repeatedly ranked by the respondents as one of the least important sources of agricultural information, is in agreement with the result of a study carried out by Wilkening in Wisconsin.

TABLE OF CHI-SQUARE VALUES FOR SELECTED
INDEPENDENT VARIABLES BY DEPENDENT
VARIABLE (N=95)

	AGE		TYPE OF FARMING		INCOME		EDUCATION		SOCIAL STATUS	
	χ^2	P	χ^2	P	χ^2	P	χ^2	P	χ^2	P
<u>PRINTED MEDIA</u>	(df3)		(df2)		(df4)		(df3)		(df2)	
Newspaper	6.57744	>.05	2.38445	>.05	7.05143	>.05	5.36502	>.05	.402261	>.05
Magazines	.472189	>.05	1.57279	>.05	7.93784	>.05	4.59955	>.05	2.26433	>.05
Bulletins	3.42413	>.05	4.12204	>.05	4.0503	>.05	.622181	>.05	4.05728	>.05
Circulars	14.3859	<.01	6.33064	<.05	3.54038	>.05	5.23014	>.05	3.37821	>.05
<u>PERSONAL CONTACT</u>	(df3)		(df2)		(df4)		(df3)		(df2)	
Extension Agents	6.13399	>.05	1.08673	>.05	6.00569	>.05	11.7792	<.01	3.76165	>.05
Commercial Dealers	.173832	>.05	.342068	>.05	9.90205	<.05	1.39303	>.05	1.15881	>.05
Friends	.603383	>.05	6.40517	<.05	1.28624	>.05	2.29548	>.05	4.63698	>.05
Neighbors	1.54019	>.05	1.90274	>.05	4.40138	>.05	.745333	>.05	6.01074	<.05
Relatives	12.1173	<.01	4.69253	>.05	9.04318	>.05	.799161	>.05	3.17138	>.05
<u>RADIO & TV</u>	(df3)		(df2)		(df4)		(df3)		(df2)	
Radio	6.38414	>.05	1.44311	>.05	1.45075	>.05	1.93742	>.05	3.29318	>.05
Television	6.2508	>.05	3.18465	>.05	1.50981	>.05	.227132	>.05	4.02395	>.05

*Tables on cell frequencies may be obtained from the authors upon request. Space limitation precluded these tables being included in the published article.

Applying Management Functions*
to Adoption Theory

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Applying Management Functions To Adoption Theory

Background

The result of inflation in the 70's and 80's is putting extreme pressure on the Cooperative Extension Service for increased productivity and accountability. Congress in the Food and Agriculture Act of 1977 asked the Secretary of Agriculture to provide an evaluation of the economic and social consequences of work done by the Cooperative Extension Service. State and county governments provide approximately 60 percent of Extension's funds (Evaluation of Economic and Social Consequences 1980). Many of these governments have reduced funding to Extension.

One may conclude that Extension Program productivity, impact, and value or worth are perceived by county and state governments to command less than the highest of priority funding. This notion suggests new or different strategies for Extension programming. One notion we hold is to vigorously apply management functions to adoption theory in an effort to speed up the rate of change and to increase the impact, value or worth of the innovation.

Purpose

The purpose of this paper is to discuss the notion of applying management functions to adoption theory in an attempt to help the Extension workers more systematically conduct the educational program. Ultimately, of course, the purpose is to achieve greater impact or value or worth of the programs designed to bring about change. Recognizing the literature (Hicks and Gullett, 1981, Reeser and Loper, 1978, Carlisle, 1979) differs somewhat concerning the specific functions of management, for the purposes of this paper we are considering the functions of management to be planning, directing, coordinating and controlling. Management functions for the purpose of this paper are placed in the context of managing both the educational process and the effective utilization of human and material resources (Ghuck, 1977). Also that management is conducted by the agent at the county level as opposed to being conducted by middle or upper levels of administration. The specific aspects of adoption theory used in the paper are referred to as perceived attributes of innovations (Roger, 1971). The perceived attributes are delimited to the following: relative advantage, compatibility, complexity, trialability and observability.

A Conceptual Framework

Assuming Cooperative Extension workers are flexible in their approach to programming, what rational basis is there for interfacing the functions of management with the educational process at the lowest level of the Organization? First Management is a science, even though it is relatively young. Second many of the concepts of this science are grounded in mathematics, sociology, anthropology, economics, engineering, political science and even biology (Carlisle, 1979 Pp 20-21). Third, business and industry rely on these management concepts to help produce goods and services for the world. Also certain defined standards of performance research (Likert, 1961; Stogdill and Coons, 1957) reveals that if functions of management were either omitted or approached in a laissez-faire manner that managers were considered unsuccessful.

The fact that management is recognized as a science and that research reveals that negative performance occurs when management functions are omitted provides, we feel, a rational basis for interfacing management and adoption theory.

Gleaning from the literature we have described the selected functions of management as follows:

Planning - the process of determining in advance what needs to be done. Working out beforehand organizational objectives and the means of their accomplishment. (Carlisle, 1979 Pp 483). Some of the literature considers "organizing" a separate function, other literature indicates that planning covers organizing. For the purpose of this paper we are considering planning to cover organizing.

Research reveals that in some cases Extension planning committees do a poor job in analyzing and interpreting situational data. Work by Voorhees (1960) indicated in a case where 16 problems were identified as major concerns to the people that economic and social data were used in only 4 of the 16 problems.

Directing - involves deployment of volunteers leaders, agents, states subject matter specialists, and other resource people in the implementation of the educational program by the agent in charge.

Coordination - suggests the interfacing of all those involved (leaders, volunteers, specialist, etc.) in the educational program in a cooperative manner. Planning research (O'Connell, 1961) reveals that coordination doesn't just happen naturally. One study pointed out that agency and other resource people were willing to participate in Extension programming but they were poorly oriented to the task, poorly prepared, and often provided irrelevant information. Research work in the business world reveals that what is successful to employees is not always the same as what is successful to management (Sassar and Leonard, 1980). Thus, some justification for applying the management functions "coordination" to Extension programming.

Controlling - is the process checking and assessing to help the work proceed as planned.

There appears to us a rational basis for designing the learning opportunities to focus on selected perceived attributes of an innovation. Based on a considerable amount of work (Kinlin, 1960, Fliegel and Kinlin, 1962, Mansfield, 1961, Petrini, 1966; Singh, 1966, as reported in Rogers and Shoemaker, 1971, Pp 140-141) done in 1960's as much as 87 percent of the variance in the rate of adoption is explained by certain perceived attributes of an innovation. Based on these studies in the 1960's (reported in Rogers and Shoemaker, 1971, Pp 140-141) attributes of innovations found to be significantly related to rate of adoption are (1) relative advantage, (2) compatibility, (3) complexity, (4) trialability, and (5) observability.

Relative advantage is the degree to which an innovation is perceived as being better than the idea it supersedes.

Compatibility is the degree to which an innovation is perceived as consistent with existing values, past experience, and needs of the receivers.

Complexity is the degree to which an innovation is perceived as relatively difficult to understand and use.

Trialability is the degree to which an innovation may be experimented with on a limited basis.

Observability is the degree which the results of an innovation are visible to others (Rogers and Shoemaker, 1971, Pp 138-155).

Figure 1 provides a conceptual or theoretical approach for predicting rate of adoption, amount of impact from the innovation, and the funding situation based on alternative approaches to management of the learning opportunities.

Figure 1: Rate of Adoption and Impact of Innovation

		Much Advantage	Little Advantage
Management Function	Well Planned	Fast Rate Of Adoption Much Impact Increased Funding ₁	Slow Rate Of Adoption Little Impact Reduced Funding ₂
	Poorly Planned	Slow Rate Of Adoption Little Impact Reduced Funding ₃	No Adoption No Impact Withdrew Funding ₄

Cell 1 in Figure 1 represents the ideal situation to occur in a planned change program. Cell 3 represents a situation that causes funding bodies to reduce their previous level of support. Theoretically sound management functions interfaced with perceived attributes of the recommended practice change would do away with Cell 3. Priority programming is not concerned with the other two Cells in the Matrix.

Figure 2 is a matrix of management functions on one axis and attributes of an innovation on the other that may be used as an operational guide in the development and implementation of learning opportunities for an educational program. Each cell in the matrix becomes a guide and check point in developing specific educational activities. Depending on the nature of the problem, that the program is attempting to change, and the target audience there may be cells in the matrix not applicable to consider in the learning opportunities.

Figure 2: Management Functions and Perceived Attributes of an Innovation.

		Perceived Attributes Of An Innovation				
Management Functions		Relative Advantage	Compatability	Complexity	Triability	Observability
	Planning	1	2	3	4	5
	Directing	6	7	8	9	10
	Coordinating	11	12	13	14	15
	Controlling	16	17	18	19	20

Cell 1 suggests that the agent in the early planning stages is to determine the relative advantage of the innovation. And that educational activities be developed to provide clientele the opportunity to understand the relative advantage of the recommended change. Cell 2 provides an opportunity in the planning stage for the agent, advisory committees and other resource people to assess the compatability of the innovation. After determining the degree of compatability the agent builds this information into the educational activities such as, meetings, mass media, and demonstrations. The same process holds for cells 3, 4, and 5 in the planning stage.

Cell 8 points out to the agent in charge of the program that it is his/her role to see that each resource person, (volunteers, leaders, subject matter specialists) implements his/her assigned task. The task is to conduct one or more learning opportunities and it is to encompass the "complexity" of adopting the innovation. Thus, the same holds for cells 6, 7, 9, and 10.

Cell 14 indicates to the agent in charge to coordinate the various resource people involved in the educational program especially as it relates to triability. That is if state specialists, industry people, and volunteer farmers are responsible for a demonstration, that orientation takes place and each understands how he/she interfaces with each other. The same holds for cells 11, 12, 13, and 15.

It seems to us that cells 16 through 20 are unique. Controlling is checking to see if what was planned is being accomplished. Cell 16 relates to cells 1, 6, and 11. For example, the agent in charge checks to see if "relative advantage" was planned into learning opportunities (cell 1). If it was he/she checks to see if it is being implemented (cell 6). The agents also check to see if all involved agree or that there is no confusion about how "relative advantage" is being dealt with in the learning opportunities. Cell 17 relates to its vertical cells. The same holds for cells 18, 19, and 20.

Summary

We propose that vigorously applying the functions of management to the perceived attributes of an innovation will speed up the rate of adoption and increase impact of the program. This should result in increased productivity and improved accountability for cooperative Extension.

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Factors Contributing to the Adoption of Energy Conservation
Practices by Individuals: A Statewide Study

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Introduction

The United States' goal of establishing energy self-sufficiency has received priority attention since the embargo of 1973-74 signaled the end of cheap and abundant oil. Despite our country's commitment to energy independence, the proper role for energy resources such as nuclear power, coal, natural gas, and solar energy remains unsettled to this day. One resource, however, that has received ample support as a basic tenet of our national energy policy is conservation. Energy experts concur that conservation of our vital energy resources represents a key variable in the formula for dealing with America's energy dilemma on a near and middle term basis.

Although the importance of energy conservation is well recognized, debate continues over how best to achieve it. In the federal arena, emphasis is being placed in the development of energy conserving equipment, believing that technology will ameliorate our present energy situation (Landsberg, et al, 1979:130). In other camps, attention is being directed at the marketplace, arguing that conservation activity will intensify in concert with higher energy prices (CONAES, 1979; Yergin, 1979). While in other groups, concern lies with attributes of individuals that tend to induce or impede energy conserving practices (Beck, et al, 1980; Olsen, 1981; Gottlieb and Matre, 1976).¹

The present paper examines energy conservation from the third perspective, focusing upon those factors which tend to contribute to energy conserving behaviors among individuals. It explores the influence that specific attributes have on three distinct types of conservation activities: efforts that entail little cost or inconvenience, those that require moderate levels of adjustment, and conservation activities that necessitate significant financial or physical outlays on the part of the person.

Correlates of Energy Conservation

The extant literature points to a number of factors which tend to affect the energy conserving actions of individuals. Cunningham and Lopreato (1977), Perlman and Warren (1977), and Gottlieb and Matre (1976) identify high energy costs as a key factor behind conservation. Milstein (1977) notes that persons who experience energy shortages tend to save the most, while Beck (1980) shows that energy sophistication and knowledge contributes substantially to energy saving practices.

Beyond this point, the influence of other variables on conservation behavior remains less definitive. For example, Rosen and Salmore (1980), Perlman and Warren (1975), Olsen (1981) and Sterns (1975) conclude that energy conservation is not influenced by energy attitudes and beliefs. On the other hand, Thompson and MacTavish (1976) and Beck (1980) find that belief in and concern for the present energy situation positively contributes to conservation. A number of studies appear to show that socio-economic factors such as income (Farhar, et al, 1980; Warren, 1974; Beck, et al, 1980), home ownership (Warkov, 1976), age (Cunningham and Lopreato, 1977),

and education (Talarzyk and Omura, 1975) are positively correlated with conservation efforts. Others find that the less affluent (Gottlieb and Matre, 1976), less educated (Cunningham and Lopreato, 1977) and younger groups (Beck, 1980; Curtin, 1975) engage in more conservation behavior. Still others claim that income (Zuiches, 1976) and education (Murray, et al, 1974) have no significant relationship with conservation practices.

This paper seeks to re-examine the contribution of age, education, income, energy attitudes and other relevant variables on energy conserving practices. It goes beyond simple replication, however, by studying their influence on three distinct types of energy conserving behaviors. Three energy indices, differentiated on the basis of the time and costs associated with the performance of 23 conservation acts, are developed. It is hypothesized that the explanatory power of certain variables (i.e., socioeconomic status, energy attitudes) will improve as the costs and time associated with the conservation practices increase.

There appears to be ample support for the creation of conservation indices that reflect the level of physical or financial expenditures required. For example, studies conducted by Becker, Seligman and Darley (1979), Grier (1977), Farhar, et al (1980), and Craig, et al (1976) all conclude that commitment to conservation decreases as the cost and inconvenience associated with the practices increases. As Morrell (1980:18) notes:

Perhaps mass transit could take you where you're going. But if this means waiting for the bus (in the cold wind), or walking a block, or transferring from one bus to another (with another wait), then you drive instead. Certain kinds of appliances may offer convenience at the price of higher energy use: frost-free refrigerators, self-cleaning ovens, plate-warming dishwashers, cuisinarts, hair dryers, and so on. People know they can insulate their homes better, or turn down their thermostats when they go away for the weekend, but many simply do not bother. Car pools might be a feasible alternative for many people to use less energy in getting to and from their jobs, but since it is inconvenient to coordinate one's schedules with others', most people still drive alone.

Although the literature repeatedly uncovers a pattern of conservation behavior that is sensitive to costs and time, researchers continue to develop energy indices that focus on the object of conservation (i.e., home heating, home cooling, transportation). Thus, it is not uncommon to find activities such as "driving 60 m.p.h. or less on the highway" and "taking public transit to work" grouped within the same conservation index (for example, Beck, et al, 1980). Granted, both address transportation-related actions, but the two differ significantly in terms of the ease associated with the performance of these conservation acts.

Research Procedures

A sample of nearly 4,200 persons was selected from a statewide list of licensed drivers to represent all adults in Florida. In order to ensure representativeness, the sample was stratified by age (18 to 24, 25 to 64, 65 and over) and sex. A 12-page questionnaire and cover letter was mailed to 4,182 Floridians in January 1979. This was followed by a reminder postcard approximately 14 days later. A second letter and replacement

questionnaire was mailed to non-respondents in late February. A final letter and survey instrument was sent by certified mail in March 1979.

Of the original sample, some 1,997 persons could not be reached since they had moved out of the state, had moved without leaving a forwarding address, or had passed away. Thus, the total reachable sample was reduced to 3,085, of which 2,461 persons returned usable questionnaires. This number represents a response rate of 79.8 percent.^{2/}

-Energy Conservation Indices-

One portion of the questionnaire addressed the conservation practices of the respondents. Each person was asked to indicate the nature of his effort on 23 different items. The response categories (and associated weights) were "no effort"=1, "small efforts"=2, "medium efforts"=3, and "big efforts"=4. Items marked "does not apply" were assigned a missing value of 9.

Three scales were developed from the 23 conservation activities examined in the survey instrument. Practices that required the minimal expenditure of time or money on the person's part were grouped into one index (Energy Index 1). Items that entailed some cost or inconvenience were assigned to a second index (Energy Index 2), while conservation efforts that involved sizable investments of time or money were classified under a third scale (Energy Index 3). Table 1 provides a listing of the items grouped under each index. The reliability coefficients calculated for the three scales demonstrate the high degree of internal consistency associated with each index.

To calculate an individual's score on each index, weights associated with the person's responses to the scale items were first summed and then divided by the number of items that applied to him. Conservation activities that were marked "does not apply" were not used in deriving the respondent's score.^{3/} Scores on all three indices ranged in value from "1" to "4".

-Factors Related to Conservation-

Several variables were introduced as possible correlates of energy conserving behavior. First were items that related to the socio-economic status of the respondents (age, family income, education, home ownership status). Next were items that reflected the person's beliefs about the nature of the energy situation--its degree of severity and the American consumer's role in the energy problem.^{4/} Perceptions of how serious energy shortages and economic/financial problems have been for the respondent over the past year comprised a third set of factors. Fourth was an index of the person's energy knowledge,^{5/} while the size of the individual's community of residence was included as a final variable.^{6/}

Analysis and Findings

In order to determine the influence of specific attributes on conservation behavior, stepwise multiple linear regression analysis was employed.^{7/} A total of eleven independent variables were regressed on each energy conservation index.^{8/} Zero-order correlations between these variables are reported in Table 2.

Standardized and unstandardized partial regression coefficients asso-

Table 1. Listing of conservation activities grouped by the three energy conservation indices.

<u>Energy Index 1</u>	<u>Energy Index 2</u>	<u>Energy Index 3</u>
Turning off lights when not needed	Turning down thermostat while sleeping to 60° or less in the winter	Drying clothes on clothesline rather than in the dryer
Turning down the thermostat setting on the water heater	Keeping daytime temperature at 68° or less in the winter	Replacing appliances with more energy efficient ones
Turning dishwasher off before the dry cycle	Limiting the amount of hot water used for bathing, dishwashing and washing clothes	Installing weather - stripping around doors and windows
Washing only full loads in the clothes washer	Using air conditioner less during the summer	Defrosting the freezer more often
Turning heat off during the day while away in the winter	Using automatic dishwasher less	Adding insulation to your house
Turning air conditioner off during the day while away in the summer	Using the car less often	Traveling by public transportation systems
Closing off unused rooms	Making fewer trips to shopping centers	Joining a car pool to and from work
	Using cold water to wash and rinse clothes	Taking vacation closer to home
alpha = .748	alpha = .806	alpha = .847

Table 2. Zero-order correlation matrix for variables included in the regression models.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Energy Index 1	--	.70	.52	.04	.05	-.06	.17	.11	.08	.04	-.20	-.20	-.10	.04
(2) Energy Index 2		--	.62	.04	.07	-.09	.22	.15	.15	.09	-.23	-.22	-.15	.06
(3) Energy Index 3			--	.00	.01	-.14	.20	.17	.19	.06	-.31	-.29	-.20	.03
(4) Wasteful energy use ^{a/}				--	.33	.06	.01	.01	-.07	-.01	-.00	.07	.02	.12
(5) Amount of energy used by citizens ^{a/}					--	.03	.02	.10	.00	-.05	-.08	.00	.01	.28
(6) Energy knowledge ^{b/}						--	-.13	-.07	.03	.08	.18	.21	.08	.05
(7) Economic/financial problems ^{c/}							--	.35	-.08	-.13	-.32	-.17	-.07	.09
(8) Energy shortages ^{c/}								--	.05	-.04	-.15	-.12	.01	.20
(9) Age ^{d/}									--	.36	-.20	-.25	-.03	-.07
(10) Home ownership status ^{e/}										--	.17	-.06	-.09	-.03
(11) Income ^{f/}											--	.39	.17	-.01
(12) Education ^{g/}												--	.22	.06
(13) Community residence ^{h/}													--	.03
(14) Present severity of energy problem ^{i/}														--

^{a/} 1=Not at all a part of the energy problem; 2=some extent; 3=great extent a factor

^{b/} This is a scale of energy knowledge with a range of 0 to 5, with "0" meaning little knowledge of basic energy facts and "5" signifying much knowledge.

^{c/} 1=Not a serious problem for me over the past year; 2=fairly serious; 3=very serious

^{d/} Coded in actual years

^{e/} 1=Do not own home; 2=own home

^{f/} 1=under \$5,000; 2=\$5,000-\$6,999; 3=\$7,000-\$8,999; 4=\$9,000-\$11,999; 5=\$12,000-\$14,999; 6=\$15,000-\$19,999; 7=\$20,000-\$24,999; 8=\$25,000 or more.

^{g/} 1=never went to school; 2=some grade school; 3=completed 8th grade; 4=some high school; 5=completed high school or equivalent; 6=some college or vocational school; 7=completed 4 yr. college; 8=graduate or professional school.

^{h/} 1=on a farm; 2=in the country, but not on a farm; 3=in a town of under 2,500 people; 4=in a city of 2,500-10,000; 5=in a city of 10,000-50,000; 6=in a city of 50,000-250,000 or its suburbs; 7=in a city of 250,000 or its suburbs.

^{i/} 1=Not at all serious; 2=fairly serious; 3=very serious

ciated with the three models are presented in Tables 3 thru 5. The relative contribution of the independent variables to the performance of conservation acts that entail minimal time or costs (Energy Index 1) is reported in Table 3. Seven explanatory variables achieve statistical significance at the .01 level. The beta coefficients indicate that the respondent's family income and education contribute the most to this type of conservation effort. Less affluent and less educated persons score higher on "Energy Index 1" than do higher income, better educated individuals. However, the amount of variance in the dependent variable explained by the seven independent variables is only 8 percent.

All 11 independent variables are found to be significantly related to "Energy Index 2" (Table 4). This scale reflects conservation practices that require moderate expenditures of time or money to achieve. Approximately 17 percent of the total variation in the dependent variable is explained by the items in the model. Nonetheless, four variables emerge as key factors: economic/financial problems, income, home ownership status, and education. The more serious the economic/financial problems experienced by the respondent over the past year, the greater the magnitude of conservation being practiced. Home owners show a greater tendency to conserve than nonowners. The higher the income and educational status of the person, the less the average amount of effort being put forth to conserve.

The results of the third regression analysis are shown in Table 5. "Energy Index 3" denotes conservation practices that call for significant investments of time or money to carry out. Eight explanatory variables, all attaining a level of significance of .01, account for 18.2 percent of the variance in the dependent variable. Most important are income, education, size of community of residence, age, economic/financial problems and energy shortages. The less income and education one has, the greater the effort to conserve. Persons residing in smaller communities score higher on "Energy Index 3" than do residents of more densely populated areas. Older persons demonstrate more conservation effort, on the average, than do younger individuals. The more severe the economic/financial problems and energy shortages experienced by the person over the past year, the greater the effort being put forth to conserve energy.

Results of the three regression analyses suggest the following:

1. Family income and education represent important variables in explaining conservation behavior. Persons with limited family incomes and low educational status tend to be doing more to conserve energy (relatively speaking) than the more affluent and better educated respondents. This holds true regardless of the energy conservation index examined.
2. Beliefs about the severity of the energy problem or its possible causes appear to have limited influence on conservation.
3. Energy knowledge has no significant effect upon the adoption of conservation practices that entail minimal time or costs. However, it has a negative influence on conservation efforts that are more costly or time consuming. This puzzling relationship is probably due to the fact that energy knowledge is moderately correlated with education ($r = .21$), and education has a strong negative effect on energy conserving behavior.
4. Economic/financial hardships over the last year positively contributes

Table 3. Standardized and unstandardized regression coefficients for the model with "Energy Index 1" as dependent variable.

Dependent Variable	Independent Variables	Unstandardized Partial Regression Coefficients	Standardized Partial Regression Coefficients
Energy Index 1	Income	-.033*	-.125
	Education	-.050*	-.117
	Economic/financial problems	.079*	.098
	Home ownership status	.099*	.068
	Wasteful energy use	.055*	.045
	Energy shortages	.042*	.046
	Community residence	-.015*	-.043
	(constant)	3.439	---
		R = .282	
		R ² = .080	

* P < .01

Table 4. Standardized and unstandardized regression coefficients for the model with "Energy Index 2" as dependent variable.

Dependent Variable	Independent Variables	Unstandardized Partial Regression Coefficients	Standardized Partial Regression Coefficients
Energy Index 2	Income	-.033*	-.109
	Economic/financial problems	.147*	.158
	Home Ownership status	.163*	.097
	Education	-.047*	-.096
	Community residence	-.033*	-.084
	Age	.003*	.082
	Present severity of energy problem	.050*	.042
	Energy shortages	.054*	.052
	Wasteful energy use	.052*	.036*
	Energy knowledge	-.020*	-.034
	Amount of energy used by citizens	.041*	.034
	(constant)	2.716	---
		R = .415	
		R ² = .172	

* P < .01

Table 5. Standardized and unstandardized regression coefficients for the model with "Energy Index 3" as dependent variable.

Dependent Variable	Independent Variables	Unstandardized Partial Regression Coefficients	Standardized Partial Regression Coefficients
Energy Index 3	Income	-.064*	-.167
	Education	-.081*	-.131
	Community residence	-.060*	-.121
	Energy shortages	.120*	.092
	Age	.005*	.105
	Economic/financial problems	.110*	.093
	Energy knowledge	-.050*	-.066
	Home ownership status	.125*	.059
	(constant)	2.895	---
		R = .426	
		R ² = .182	

* P < .01

to adoption of conservation practices. This is especially true for activities that involve moderate expenditures of time or money.

5. Persons who have experienced serious energy shortages over the past 12 months generally make greater efforts to conserve energy. In fact, beta coefficients suggest that the relative importance of this variable increases as conservation acts become more costly or inconvenient.
6. Adoption of conservation practices that involve little cost or time is not influenced by age. However, age emerges as an important factor in conservation practices that entail moderate to high physical or financial expenditures. Older persons are more likely than younger adults to be carrying out conservation efforts that call for greater sacrifices of time or money.
7. Ownership of a home bears some relationship to energy conservation. Home-owners are more likely to conserve than non-owners, especially for practices that are moderate in time or costs.
8. The effect of size of a person's community of residence increases in importance as one moves from the least demanding to the most difficult conservation practices. Persons in smaller sized communities are doing more than their urban counterparts to conserve energy.

Summary and Conclusions

The intent of this paper has been to identify the influences of specific attributes on energy conservation behavior. We hypothesized that the explanatory power of relevant variables would improve in concert with conservation practices requiring greater time or costs to carry out. Our findings lend support to this hypothesis. Results of stepwise multiple regression analyses show that the total variation explained by variables commonly identified in the literature as correlates of energy conservation increases from 8 percent in the model having "Energy Index 1" as the dependent variable, to 18.2 percent in the regression equation having "Energy Index 3" as the dependent variable.

Our findings suggest the following as important considerations regarding the adoption of energy conservation practices. First, the use of higher energy prices as a mechanism for encouraging conservation will impose additional economic burdens on those very groups who are already practicing the most energy conservation - the less affluent and less educated. Persons of higher socio-economic status are not making substantial efforts to conserve in areas requiring major expenditures of time or money. Because of their comfortable financial status, they may easily absorb higher energy prices without significantly altering their conservation practices.

Second, efforts aimed at persuading people of the severity of the energy problem will not necessarily result in positive changes in conservation behavior. Third, education programs directed at the enhancement of energy conserving practices should pay special attention to those activities that entail moderate or significant investments of time or money. The small amount of variation in "Energy Index 1" that was explained by the independent variables suggests that people are making substantial efforts to conserve energy in areas that require minimum time or cost to carry out. Fourth, energy educators should target their programs to those groups who have been

least inclined to adopt practices that involve moderate to high costs or time. These include the better educated, the more affluent, younger adults, and urban residents.

Footnotes

- 1/ It is not our intention to identify the entire spectrum of positions being advanced on the issue of energy conservation, but to provide the reader with some notion of the diversity of opinions being presented on this matter.
- 2/ The 2,461 respondents were found to compare quite favorably with 1979 Florida population estimates available on age, sex and race.
- 3/ The three indices are designed to reflect the relative magnitude of energy conservation being practiced by individuals within their own environment. That is, only items that are relevant to the person's present life situation are utilized in the calculation of scores. This represents a departure from some studies, such as Beck, et al (1980). Their measure of energy conservation behavior is created by counting the number of conservation activities performed by individuals on 17 different items. In our view, this introduces a possible bias into their findings. For example, the positive relationship they uncover between income and general conservation may be simply a result of higher income people having more items on which conservation efforts may be practiced. Our own data lend credence to this argument. Product-moment correlations reveal that higher income respondents tend to have more items within each scale that apply to them (r's range in value from .19 to .22).
- 4/ One question sought to examine the extent to which the individual believed the present energy situation in the United States was serious. The two remaining items focused on the person's view of the contribution of "waste and inefficient use of energy" and "amount of energy used by U.S. citizens" to our present energy dilemma.
- 5/ Five statements, designed to measure the energy knowledge of respondents, comprised the energy knowledge index. The specific items and their accompanying weights are: (1) Do you think we produce enough oil in this country to meet our present energy needs? Produce enough oil = 0, Have to import some oil = 1; (2) Nearly all of the energy we use today comes from fossil fuel. False, Don't Know = 0, True = 1; (3) A freezer that is well frosted up uses less energy than one that has been defrosted. True, Don't Know = 0, False = 1; (4) It takes more energy to operate a 100 watt bulb than it does to operate a 50 watt bulb. False, Don't Know = 0, True = 1. The person's score on the energy knowledge index was calculated by summing the weights associated with his responses to the five items. The range of scores on the index is "0" to "5".
- 6/ The size of a person's community of residence has not been examined in previous studies of this nature. However, this variable may well have some influence on conservation behavior. For example, Wardwell and Brown (1980) state that higher energy costs and shortages may be impacting more heavily upon persons living in less populated areas, given their reliance on the automobile as their primary mode of transportation. With an increasing proportion of the household budget being devoted to higher transportation expenses, persons residing in smaller sized com-

munities may be inclined to compensate for this by trying to conserve more energy both within the home and in the area of transportation.

7/ Only cases that had missing values on no more than 40 percent of the independent variables were included in the regression analyses. Thus, the number of valid cases was reduced to 1,992.

8/ We are cognizant of the fact that several of the explanatory variables in the regression models are not sufficiently precise to be characterized as interval scales. However, as Labovitz (1967, 1970), Baker, Hardyck and Petrinovich (1977), and Bohrnstedt and Carter (1971) have noted, the robustness of statistical tests are such that they can be employed in ordinal data with little fear of gross errors.

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PROBLEMS AND OPPORTUNITIES FOR THE MINORITY
WOODLAND OWNER IN NORTH CAROLINA*

by

Clyde E. Chesney

Introduction

In 1978, The Governor's Advisory Task Force on Small Woodlot Management reported that: "Most small woodlot owners need greater awareness of the economic and biological potential of their own lands Many owners do not know the current volume and fair market value of timber on their woodlots; neither do they know the productivity of their land or the potential for increased income that could be achieved with careful management." Finally, they pointed out that some owners often do not know where to go for help. Following this documentation of the problems, the Task Force developed major recommendations for increasing the productivity of small woodlots in North Carolina.¹

Over the past 3 years, most if not all the recommendations of this Task Force were implemented including the development of an interagency Action program involving State Forest Service, Agricultural Extension, Soil Conservation Service, Wildlife Resources Commission, Agricultural Stabilization and Conservation Service (ASCS) and others.

In 1980, the Small Woodland Owner Contactor Project was established by (1890) Extension in four counties in the central and northwestern part of the state to help reach low-income woodland owners. Employing an Extension forestry aide in each county to work one-on-one with woodland owners, the two year pilot program provides information on the availability of technical forestry services and encourages landowners to request this assistance.

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However, the special situation of the minority landowner warrants additional emphasis. Historically, nonwhites played an important role in the development of the southern forestry industry, but primarily as low paid unskilled labor.² Very few have been involved in professional forestry positions or in scientific management of their timber holdings. In 1977, for example, Jones reported that blacks and other minority landowners in the South and in other parts of the United States have low participation in programs offered by Federal/State agencies to help citizens manage their forest land holdings.³ Yet because there is an increasing consumer demand for all renewable resources such as wood and timber products, outdoor recreation opportunities and wildlife and the marine environment, there is a recognized need to increase the productivity of as many small private woodlots as possible.

This paper will discuss briefly minority woodland ownership, size distribution of this ownership, income from sale of forest products, participation in the Forestry Incentive Program and opportunities for increased programming learned from the Small Woodland Owner Contactor Project.

The Resource

The U. S. Forest Service defines commercial forest land as any land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. In North Carolina the area of commercial forest land is 19.5 million acres: 8.4 million is in farm woodland, 2.3 million is owned or leased by forest industry, 7.0 million owned by private individuals and corporations and less than 1.8 million in public ownership (Table 1).

In terms of resource ownership, North Carolina has the greatest number of forest owners of any state in the southeast - over 245,000.⁴

Table 1. Area of Commercial Forest Land, by Ownership Classes, North Carolina, 1974

Ownership Class	Area
	Acres
National Forest	<u>1,011,434</u>
Other Federal:	
Bureau of Land Management	--
Indian	52,418
Miscellaneous Federal	<u>283,327</u>
Total other Federal	<u>335,745</u>
State	<u>320,385</u>
County and municipal	<u>77,886</u>
Forest industry ¹	<u>2,134,793</u>
Farmer-owned	<u>8,452,435</u>
Miscellaneous private:	
Individual	5,970,136
Corporate	<u>1,242,021</u>
Total miscellaneous private	<u>7,212,157</u>
All ownerships	<u>19,544,835</u>

¹Not including 180,775 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Source: North Carolina's Timber, 1974, p. 36.

Minority Woodland Owners

According to the 1974 Census of Agriculture, there were approximately 9,560 minority operated farms⁵ in the state: 8,339 black, 1,174 American Indian, 11 Spanish origin, 2 Japanese-Chinese-Filipino and 34 others.⁶ This represented almost 590,000 acres. Almost 200,000 of these acres were listed as woodland in 1974 (Table 2).

Thus the minority farm owner who represents about 10.5 percent of the more than 91,000 farm operators owns between 2.3 percent and 4.9 percent of farm woodland in the state.⁷

Table 2. Minority Woodland Ownership in North Carolina

Race	Farms	%	Acreage	%	No. Farms With Woodland Acreage	%	Total Woodland Acreage	%
Black	8,339	87.2	507,747	86.6	3,962	86.9	176,334	89.0
American Indian	1,174	12.3	74,708	12.7	572	12.5	20,940	10.6
Spanish Origin	11	.1	712	.1	2	.04	75	.04
Japanese/Chinese Filipino	2	.02	48	.008	2	.04	16	.008
Other	34	.4	3,312	.6	20	.4	758	.4
TOTAL	9,560		586,527		4,558		198,123	

Source: U. S. Department of Commerce, Bureau of Census, Special Report on Minority Owned Farms. 1974

Size & Distribution of Forest Ownership

Of the more than 245,000 owners of commercial forest land in the state, the vast majority, approximately 88 percent, own between 1-100 acres of woodland. This percentage is similar for minority farm operators where 25.9 percent own between 1-10 acres and 50 percent own between 10-49 acres (Table 3). Statewide 36 percent of commercial forest land is held in parcels of less than 100 acres.

Table 3. Farms by Acres of Woodland

Race of Operator	1-9	10-49	50-69	70-99	100-149	150-179	180-219	220-259	260-499	500-999	1000-1999
Black	1,014	1,975	358	89	324	52	42	28	62	16	1
American Indian	159	300	37	13	47	3	5	2	2	4	-
Spanish Origin	-	1	1	-	-	-	-	-	-	-	-
Japanese/ Chinese Filipino	2	-	-	-	-	-	-	-	-	-	-
Other	9	5	2	1	2	-	-	1	-	-	-
TOTAL	1,184	2,281	398	103	373	55	47	31	64	20	1

Source: U. S. Department of Commerce, Bureau of Census, Special Report on Minority Owned Farms, 1974.

Income From Forest Products

The Census Bureau classifies forest products sold from farms as standing timber, firewood and other fuel, saw logs and veneer pulpwood and other products. In 1974 value of all forest products from 3,631 farms (3.9 percent) exceeded 16.2 million dollars. At the same time the value of forest products sold from 185 minority operated farms (1.9 percent of the total minority farms) was about \$364,000 or an average of \$1,968 per farm. This \$1,968, however, represents about 19.8 percent of average farm income for all agricultural products sold for the minority landowner (Table 4).

Table 4. Comparison of Market Values of Forest Products Sold with Total Agricultural Products

Race of Operator	Forest Products			Total Agricultural Crops		
	Farms	(\$1000)	Avg./Farm	Farms	(\$1000)	Avg./Farm
Black	157	330	2101	8339	80,974	9,710
American Indian	27	D		1174	13,260	11,295
Spanish Origin	-	-	-	11	10	864
Japanese/ Chinese Filipino	-	-	-	2	1	588
Other	1	D		34	683	20,095
Total	185	\$364,000	\$1,967	9560	94,929	9,930

Source: Compiled from U.S. Department of Commerce, Bureau of Census, Special Report on Minority Owned Farms, 1974

Participation in FIP

The Forestry Incentive Program (FIP) was enacted by congress in 1973 to provide an economic incentive for sound forestry procedures. Nationwide in 1978 there were 10,013 requests made for FIP participation. Of these 8,044 or 80.3 percent were approved. The approval rate for the 329 requests from minority farmers and ranchers was 72.9 percent or 240.⁸

In North Carolina only ten minority owners (1.0 percent of all requests) applied for FIP cost-share funding - all ten were approved (Table 5).

Table 5. Participation in Forestry Incentive Program - 1978

Race of Operator	No. Requesting FIP	Approved for FIP	%
Black	9	9	100
American Indian	1	1	100
Hispanic	0	0	0
Asian or Pacific Islands	0	0	0
White	951	881	92.64
Total	961	891	98.88

Source: Report on Participation in ASCS County Programs and Operations by Racial Groups - 1978. USDA, Agricultural Stabilization and Conservation Service, 1979.

These statistics have shown that while minority woodland owners are small in number they do have a stake in the effort to increase the productivity of the state's commercial forest land. And given their low involvement with renewable resource management historically, special efforts are warranted to insure an equitable rate of participation in Federal/State efforts to increase productivity.

Opportunities for Increased Programming

Since 1972, Extension has learned that paraprofessionals (Agricultural Technicians, Family Living Aides, and 4-H Program Assistants) can play useful roles in disseminating agricultural information, assisting low-income families in managing their budget and organizing 4-H clubs. Consequently, one objective of the Small Woodlot Contactor Project, a synthesis of the successful Farm Opportunities Program of Extension and the Minority Contactor Project of the U. S. Forest Service - State & Private Forestry, was to evaluate the effectiveness of paraprofessionals in disseminating forestry information.

After reviewing preliminary results which saw paraprofessionals contact over 3,000 landowners, the conclusion is that Extension forestry aides can also play useful roles in reaching small and limited-resource landowners.

During FY '81 four Aides (2.83 staff years) contacted 3,249 small woodland owners - 33.7% were low income, 28.7% were female and 2.5% were Black. To reinforce awareness of available forestry assistance, 1,146 telephone calls were made, 2,198 publications and 614 circular letters distributed.

Although it is too early to evaluate the long range impacts of these initial contacts, one forestry aide reported that twenty-five landowners have developed management plans and estimates that twenty-three will follow through with reforestation projects on a total of 355 acres. The final goal, of course, is to graduate or promote these non-traditional clientele into ongoing Extension education programs.

But in order to provide additional assistance (particularly with minority landowners) we must do a better job of identifying both farm and non-farm woodland owners, documenting their needs and overcoming many years of benign neglect. Although it will not be an easy job, we can suggest possible strategies for expanded natural resource programming for low-income and minority clientele.⁹

How can we identify minority landowners?

While less than 3 percent of these contacts have been minority landowners, two options are available for increasing the percentage: expanding the contactor project into counties with a larger number of minority landowners (eastern North Carolina) and/or providing basic forestry training for currently employed agricultural technicians. In expansion counties, forestry aides should be employed who have 2-year associate degrees in forestry. Efforts should be made to reach this audience through work with black churches, community organizations and by providing informational packages for school children to take home.

What kind of motivations are needed?

Along with contact with innovators who can demonstrate successful forest management efforts, solid but basic information on the economics of growing trees as an alternative investment must be presented in an understandable manner. Such concepts as capital gains, tax credit, use value assessment, cost-sharing, increase in property value and legacy for children must be understood and demonstrated for this audience.

What services are needed?

Primarily, this audience needs information on such topics as: how to sell forestry products properly, where to go for assistance, what is the value of standing trees, and what protection and maintenance efforts are required. Workshops on putting forestry to work must be planned and special efforts implemented to reach widows and absentee landowners.

Summary

While this article has been brief, it has explored several problems and opportunities facing the minority woodland owner in North Carolina - potential of

resource base, income and other economic possibilities and strategies for information dissemination - and which are probably not unlike the problems/opportunities of minority landowners in many other southern states. If we are to overcome the many, many years of benign neglect, other new and innovative information dissemination strategies must be developed and tested.

Footnotes

- ¹ Governor's Advisory Task Force on Small Woodlot Management, Recommendations to increase the Productivity of Small Woodlots in North Carolina. (Raleigh, N.C.; Department of Administration, 1978).
- ² Howard, John C., The Negro In The Lumber Industry. (Philadelphia: University of Pennsylvania Press, 1970, pp. 25-31).
- ³ Jones, Otis. Minority Contactor Projects for Cooperative Forestry Programs in Alabama and Florida, April 1975 - April 1977. USDA, Forest Service SE S & PF September 1977.
- ⁴ Knight, Herbert A. and Joe P. McClure. North Carolina's Timber, 1974. USDA, Forest Service, Southeastern Forest Experiment Station, 1974.
- ⁵ U.S. Census defines a farm as all land on which agricultural operations were conducted at anytime in the census year under the day-to-day control of an individual management and from which \$1000 or more of agricultural products were sold during the census year.
- ⁶ U.S. Department of Commerce; Bureau of the Census. 1974 Census of Agriculture: North Carolina State and County Data. Washington: Government Printing Office, 1977. Vol. 1 Part 33.
- ⁷ U.S. Department of Commerce, Bureau of the Census, Computer Printout on Minority Owned Farms, 1974.
- ⁸ Report on Participation in ASCS County Programs and operations by Racial Groups- 1978. USDA, Agricultural Stabilization and Conservation Service, 1979.
- ⁹ Strategies were compiled from suggestions of forestry and extension professionals in North Carolina and other states. Comments from Jim Neal, Southern Regional Extension Forester, located in Athens, Georgia were especially helpful.

A Critical Analysis of An American Art Form:
The American Saddlebred Horse in the South

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Introduction

Despite extensive study of modern social change, sociologists have generally neglected the historic shift from the primacy of labor to that of consumption as a basic determinant of meanings and relationships, one of the great social and cultural transformations of the 19th and 20th centuries (Alt, 1976: 55). Consequently we have little detailed understanding of the dynamics of this shift nor how it is presently maintained. Empiric explorations of these questions are, rare except for investigations of the broad impact of technology. Even rarer are empiric investigations of the production, maintenance and consumption of phenomena that appear to be obsolete, yet are primary sources of pleasure and profit for various sectors of our society, (cf. Edelman(1979) on the film industry). Most noticeably lacking are studies of the social organization of man-animal relations in contemporary society.

Considering the instrumental and symbolic importance of animals to the maintenance of social order throughout history, this neglect is most

glaring. While this may be partially explained by the pragmatic and legalistic approaches to life that are part of the Western world's production ideology and the influence that this, in turn, has had on sociologists' selection of topics appropriate for investigation, e.g. "underground" or "hidden economic" alternatives to the approved means and ends (cf. Sutherland, 1937; Klocklars, 1974; Henry, 1978), much of it has to do with the tendency to think that man-animal relations are not organized in any perceptible manner in modern societies. In contemporary U.S. society, this tendency has been buttressed by the disappearance of various animals from our daily lives and a public impression in some circles that maintaining expensive animals in an age of advanced technology and stringent economic conditions exemplifies tainted indulgences in personal luxury (cf. Barich, 1981: 178-83).

In this paper we explain that one result of the historical shift away from labor to consumption has been the reorganization of man-animal (horse) relationships. One such new relationship is found in tracing the development of a new breed of horse valued for its aesthetic show form rather than its productive capacity. By focusing analysis on this development we are able to demonstrate that it involves an "art world" that emerged in the U.S. after the American Civil War. The show horse world is, in Becker's (1976) phrase, an "art world", one with well defined "canons" of performance (See appendix A for a description of the performance standards for various show horse events).

The Show Horse World as an Art World

What sort of art does the show horse world produce? Becker's (1976) typology will serve as a point of entry into a consideration of art worlds and their linkages to other social worlds and institutions. At the core of

Becker's typology is the institutionalized art world, recognized by the larger society as the producers of "real art", a social world organized around aesthetic canons of performance and (not unlike science) a social world that values creativity and innovation within the range of those canons. The ability to create new symbolic forms as opposed to "canonical" performance is the point of difference between the art world's designations of "real artist" or "hack" (or as Becker points out, "competent craftsman" if hack seems too strong a term). Thus, institutional art is intended by its producer to be an exercise in purely formal creation and is created in a social context that trains one for such performances and supports the performer.

Folk art is the exercise of formal utilitarian canons for utilitarian (or at least non-aesthetic) ends. The canons of the production of forms are those of a social world concerned with something other than art and, although Becker does not say so directly, folk art (unlike maverick and naïve art) is judged as art according to the aesthetic canons of another social world, principally the institutional art world. Thus the productive and critical canons of folk art are found in two different social worlds one utilitarian, the other, aesthetic. With folk art the ability to produce is separated from the ability to distinguish "real" from "hack" art.

The show horse world that exists today constitutes an institutionalized art world with esoteric canons of performance and other, less clearcut, standards of excellence that separate the "real show horse" from a "good performer." In describing such a "real horse" to the 1890' readers of The Farmer's Home Journal a writer comments on both conformation and performance:

Probably the distinguishing characteristic most strongly emphasized in Montrose (the horse) was his eye, the unanimous opinion being that he had the most beautiful eye ever seen in the head of any horse. This feature most easily caught the attention and was that only thing that enabled one to give any definite concept of him, for there was an indefinable, indescribable something about his presence, air, mein, his regal splendor, that could not be put into words. He possessed such beauty such exquisite proportions, such a veritable embodiment of finish and quality, entirely separate from any idea of delicacy or effeminacy, difficult to describe or imagine. There was not a suggestion of the feminine in Montrose--everything about him suggested virility and in the strongest possible manner the idea of the masculine, and yet he was as fine and delicate and finished in every outline and feature as the finest mare. He was captivatingly beautiful in repose; in action he added the fascination of perfect motion (Scharf, 1932:62).

Such standards do not spring into being overnight and they clearly are a long way from judging a horse on its ability to pull a load or run fast. We argue that the show horse world that emerged as an institutional art world in the 1890's began as a folk art world institutionally connected to utilitarian concerns for comfortable transport (hence, the origins of the various saddle horse gaits). With the improvement of roads and the emergence of new forms of transportation (horse powered, steam powered and finally, gasoline powered) the saddle horse came to be increasingly obsolete as an important means of transportation. As the utilitarian reasons for the existence of the saddle horse waned, new institutional linkages were formed, transforming the saddle horse from a folk art object of everyday life (the world of the utilitarian) to one of the sporting world. Thus, as saddlers became less important for mundane transportation, they were redefined as objects of leisure and recreation: riding was promoted for its own sake, one's saddler was raced at impromptu events and county fairs as well as trained for the gaits. Finally, the

showing of saddlers emerged as a separate activity in itself and with the creation of new social forms (the creation of the show as separate from the sporting world of thoroughbred racing; the creation of the American Saddlebred Registry and attempts to breed to form and social structures (the American Saddle Horse Breeders Association) an institutional art world arose, concerned with esoteric canons of conformation and performance to the exclusion of utilitarian (e.g., economic) concerns.

Historical Development of the Show Horse World

In order to sketch the history of the American Saddlebred, we will divide that history into three successive time periods that correspond to the varying interpretations successive social worlds gave to the importance of the breed and its characteristic conformation, temperament and gaits. We will analyze the development of the social world organized around the American Saddlebred in the context of an industrializing society. Although the ancestral stock of the Saddlebred lines had its origins in Canada and New England in the 17th century (Scharf; 2), from the beginning the American Saddlebred was a product of the upper South. The two centers of 19th and early 20th century breeding and showing activity were Kentucky and Missouri (Krum, 1912; Scharf, 1932; Weatherman, N.D.)

While the imagery of both horse and social world call forth older and more genteel times, it is misleading, for the development of the American Saddlebred horse represents an application of specifically industrial (or modern) conceptualization to a social object that predates industrialization. This is apparent in efforts to "standardize" the breed based on form, bloodline, performance, training and temperament. The horse, while generally and increasingly an obsolete production commodity was being

transformed at this time into a consumption commodity as standardized as any product of industrial manufacture.

These forms of manipulation actually represent a "fragmenting" of the whole horse; producing new subclasses of art forms that continue to be developed even today. e.g. classes at shows for different ages, sizes, sexes, etc. of both horses and riders. The current reality of the Saddlebred reflects little if anything of the original utilitarian reality of the "saddlebred." It reflect a new logic based on manipulation.

This production of the Saddlebred for consumption appears at first glance to be a means by which to transcend the mechanization and rationalization of the late 19th and early 20th century. Here we refer for instance, to the desire of the bourgeois to have a mimetic relation with nature (Habermas, 1975:78). This appearance of maintaining a union with nature, is basically a false consciousness, however, because the modes of performance expected from the horse reflect mechanistic logic with its emphasis on speed, efficiency and machine-line smoothness. In it's typical form, the performance that is suitable for showing results from a ritualistic relationship with the horse that is a fetish in its form and content.

The above offers a partial account for why this particular art form developed and persisted. Its continued existence with attendant elaborations of manipulation, has been successful also because the "show horse" says nothing contrary to the dominant socio-political structures, such as is found in avant-garde literature cf. Kristeva (1974). The current renaissance (1970-82) of interest in show horses is a testimony to its conservativeness and appeal to the self, "...a basic repressive unity that serves the interests of rationalization (Deleuze and Guatti, 1977).

Showing saddle horses was first a utilitarian folk art, a demonstration of utilitarian traits to ad hoc audiences who could judge those traits for the usefulness and in a rough way, their conformity to some performance ideal. Second, when the institutional linkage of the show horse world shifted from everyday economic utility to sport, the Saddlebred was valued for its pleasure or recreational possibilities and its speed as well as formal excellence. During this period, showing may be termed a sporting folk art and horse shows involved racing (and wagering) as well as performance in gait. Finally, the show horse world emerges as an institution art world with esoteric formal norms of performance (Becker's "canons") and specially staged events that appeal primarily to audiences trained to appreciate the Saddlebred's show.

It should not be assumed that these periods were (or are) temporally discrete; even today, riding for sport and exercise still is done. In fact, in 1957, The American Pleasure Horse Association was formed to organize and promote this aspect of riding as against the highly formalized show performance (Weatherman n.d.: 1). The important point here is the sequence of the appearance of these new definitions and new social relations represented by emerging formal organizations organized around one or another of these new interpretations of the saddler. The process is clearly one of differentiation; whether it is also one of succession is still to be seen, although it does appear that the utility of the saddle horse in everyday transportation is unlikely (OPEC aside) to be re-established.

Conclusions

Transformations in social relations and the meaning of objects are of central importance mainstays in social order. This is no less the case for

animal-human relations than for those between people. In this study we have developed an analysis of the transformation of animal-human relations for one period and for one type of animal, the saddle horse that is now used for show. This development occurred in the context of late industrialization in the South, most specifically Kentucky.

As industrialization developed in the South, the importance of the horse as a source of power for agriculture increased. This accentuated the importance of the horse as an utilitarian object, rather than the recreational object of the late 19th century. As industrialization developed, the horse became more specialized. New breeds of horses were created, which were to have specialized roles. The blurred distinction of draft and saddle horses gave way to specificity. By the early 20th century, draft horses were, however, rendered obsolete with the development of steam and gasoline engines which had their initial impact on the farm. The transformation of the saddle horse, even though it too was made obsolete, followed a different path. Instead of being totally replaced because of the new emphasis on the motor and efficiency, it was integrated into sport and play, two themes found in late industrialization. The net result is that the "saddler" was saved from extinction as it became a different social object. This occurred despite anti-showhorse sentiment due to the prevalence of "indulgence" and "opulence" associated with this period in history.

Instead of remaining a utilitarian object for transportation, it eventually became an aesthetic object with emphasis placed on form.

Exploring the question of the rhetoric of legitimation used for maintaining this obsolete animal is important for understanding this development especially in view of the emphasis placed at this time on

utilitarianism and efficiency of land use. How did one justify using land for an obsolete animal that could be used for cash crop, such as tobacco? How was this ornamental animal justified? Early 20th century records indicate two themes, one emphasizing health and the other economic efficiency. "Healthy outdoor life" was an important rhetorical device used to justify keeping a show horse. Numerous healthy benefits would be forthcoming if this practice was endorsed, not to mention the "beautification" of ones home. (See Krumigiz). Besides, it was argued, the horse's expenses aren't a bad price to pay for good health!

This theme of economic efficiency was not restricted, however, to ones own personal health. It extended into the umbrella rhetoric used to legitimate the gathering of others for the explicit purpose of showing the horse. Here we find expensive and ornamental animals exhibited under the rhetoric of charity shows. This action, not unlike philanthropic disbursements, is a means to legitimate wealth. Charity shows, as most shows seem to be today, down play indulgence and conspicuous consumption. This, in essence, is a rear-guard action which diverts attention away from the accumulation and wast of wealth.

In summary, the show horse represents a withdrawal from using land compared to the use of land for the production of Thoroughbred horses. The latters land use is more conspicuous consumption than raising show horses. The show horse is indeed, less ostentatious in all its stages than Thoroughbreds. this is true for actions, shows, riders, owners, etc. This may be explained because of the emphasis placed in its transformation from an object of production and utilitarian value, to an art form.

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The Development of Research
on Rural Crime in the South

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INTRODUCTION

This paper has the purpose of examining the current state and some needed directions of research and theory development in the study of rural crime in the South. Rural crime has typically been of little interest to American criminologists. Sociology has generally focused on the urban community as the location of the "crime problem," as well as its etiology. The paucity of interest in rural crime is easily demonstrated by skimming any popular criminology textbook. This lacuna will become increasingly burdensome in the future, especially to rural sociologists in the South. The social, demographic, and economic transformation which is currently taking place in the region will pressure rural sociologists into the study of crime if they are to contribute to the adaptation of Southern rural communities.

Though rural crime has not been given significant attention in the past, this does not mean the existing body of criminological theory and empirical data are without relevance to its study. The major goal of this paper is to explicate these implications with special reference to their application to the rural South.

VIOLENCE AND THE RURAL SOUTH

Practically the only major theoretical interest criminologists have had in the South has been with respect to the etiology and patterns of lethal violence in the South. Historically, the generally low rate of criminality in the South has had one glaring exception in some forms of violence. Collective violence and lynching growing out of racial conflict has been one form this has taken. The high-water mark of lynchings in the late 19th century progressively declined in the 20th century to near zero (cf. Invariety, 1976). Other forms of homicide, however, have retained a distinctively Southern flavor.

The historical patterns of homicide in the United States have always reflected a much higher incidence of murder in the South and this continues to the present. Examining the 1979 Uniform Crime Reports, for example (any year would reveal the same pattern), we find that of the

eleven Southern (Confederacy) states, six of them are found in the top ten homicide states, and nine are in the top fifteen.

The theoretical issue surrounding the concentration of homicide in the South has concerned the choice of structural and cultural explanations. The suggestion that the South represents a culture of violence has much support in history and contemporary research (Hackney, 1969; Gastil, 1971). It has been argued that values attached to the use of violence, especially in interpersonal disputes, are the principal motivations of homicide in the South. On the other hand, a case may be made also for the position that the South represents a configuration of structural characteristics which generate its high homicide rate. Homicide is concentrated at the bottom of the social structure. Regionally speaking, the South has had the highest proportion of population concentrated at the bottom. Consequently, poverty, high percent nonwhite, income inequality, poor health facilities, etc., could be demonstrated to be the root of Southern violence, rather than some "unique tradition" (Loftin and Hill, 1974). This debate developed into somewhat of a controversy in criminology with numerous empirical studies attempting to specify the relationship between structure, culture, and Southern homicide. After a decade of intensive research, the conclusion one must reach is that both structural and cultural factors exercise independent influences on the high homicide in the South (cf. Bankston and Allen, 1980; Allen and Bankston, 1981).

The changes taking place in the Southern social structure are likely to have significant effects on patterns of homicide in the South, especially in rural communities. Some of the possible changes which are likely to occur, however, may not be revealed in aggregate homicide rates. Homicide is not a homogeneous category, and the types of situations in which lethal violence takes place are as theoretically important as the level of violence itself. The kinds of social change the South is experiencing, and is likely to experience in the next two decades, may well result in a significant change in the ratio of homicides occurring in interpersonal disputes to felonious homicides committed in the course of other crimes. We will speak more to the specific sources and implications of such a change in violence patterns in a later section.

RURAL SOUTHERN FOLK CRIME: A LIMITED TRADITION OF SOCIOLOGICAL RESEARCH

Much law violation in any community falls in a category commonly

labeled by criminologists as "folk crime." Many laws have little moral restraint associated with them, and while their violation is not generally approved, such crimes are "...relatively numerous, unstigmatized and differentially treated in the legal process (Ross, 1961: 237)." Traffic law and gambling law violations are examples. The lack of strong moral condemnation, however, does not necessarily imply that all such crimes are without significant negative social consequences, such as speeding or driving while intoxicated.

This category of crime offers an opportunity for sociologists to make important contributions in the area of designed attempts at controlling certain forms of undesirable behavior. The deterrence of folk crime, in other words, is much more dependent upon the characteristics of legal sanctions and the organizational efforts at imposing them than is the case of crime involving moral reprehension (Bankston and Cramer, 1974).

One area of systematic research which has had fruitful results has been a series of studies carried out by rural sociologists at L.S.U. and Mississippi State on the problem of incendiarism in Southern forests.

The U.S. Forestry Service recognized years ago that many of the forest fires in the South (and the remainder of the U.S.) were man-caused and a large percentage of these fires were deliberately set. Beginning with a short lived effort in the 1930's, and with additional resources more recently, the Forest Service began to support social science research in order to learn more about this problem and how to deal effectively with it. Much of this research was done in the states of Mississippi and Louisiana through cooperative arrangements with the state universities in those states and the USDA Forest Service (Bertrand and Baird, 1975; Doolittle and Lightsey, 1979).

"Woods burning" is a good example of a "folk crime" in that it is a practice deeply rooted in the Southern culture, and only in recent history have formal, legal measures been taken to outlaw the setting of these fires. These control measures have been deemed necessary because of the increased human population and, therefore, the increased competition for all natural resources has required regulation of this competition.

Much of the research related to forest fires has been concentrated on aspects of the geographical location of major fire problem areas, the determination of who set the fires and why and the development of methods of communication between persons in fire problem areas and representatives

of the forest service (for example the study of a "contactor" program in a Western Louisiana Parish).

The research which has been done of incendiary forest fires in the South may well be an indication of the type of research which will be most pertinent for rural research for the future. Some types of behavior which are approved, tolerated or even encouraged in a low population density area with bountiful resources may be less accepted or even outlawed when the population increases or the competition for resources escalates. Research results indicate that the increased demands for wood products has led to the increasing legal restrictions on and disapprobation of woods burning. We might well anticipate that the problems associated with reducing woods burning and dealing with the social structural apparatus which sustains this behavior would very likely be repeated in attempts to deal with other "folk" type crimes such as trespass, water rights and access to places to hunt and fish.

SOCIAL CHANGE IN THE SOUTH AND ITS THEORETICAL AND RESEARCH IMPLICATIONS FOR THE STUDY OF CRIME

Changing Patterns of Homicide in the Rural South

The principal source of changing patterns of rural Southern crime is, of course, to be located in the nature of social change which has and will continue to characterize the South. The theoretical relationship between social change and crime has been a central sociological concern since Durkheim's Division of Labor in Society, and a considerable amount of research has accumulated on the topic. While none of this has been focused on the South, theoretical interpretations of rural Southern crime must be cognizant of these issues and findings.

The cross-cultural research of comparative criminologists offers several suggestions for understanding rural Southern crime. First, transition from traditional, rural society to urban industrial society changes both the form and volume of crime. Many of the variables affecting crime in developing societies are thus likely to be of importance in research on rural crime in the South. The most significant and general effect of modernization is the transition from a domination by violent crime to one in which property crime is more prevalent (Shelley, 1981: 139). This does not necessarily imply a decline in the rate of violence (there may in fact be an increase), but rather that the proportionate number of property crimes increase. Historically, what crime there has

been in rural areas was violent (Shelley, 1981: 44). As noted earlier, the rural South has always been a violent society. Its cultural tradition and the presence of weapons combined to make interpersonal disputes dangerous business in the South (Reed, 1977). Official statistics demonstrate that over the last decade rural homicide has been increasing at a rate somewhat higher than is true of large cities (Swanson, 1981: 21-22). In the rural South this trend is likely to become more pronounced if what we are witnessing is a change in the form of homicide. Research should then, focus attention on the contexts in which rural Southern homicide is occurring. Homicide as noted earlier, is not a homogeneous category. Rural, especially rural Southern, homicide is much more typically generated in situations in which victim and offender know each other, and are engaged in a hostile, self-esteem threatening dispute. In effect, increase may be a consequence of felony-type homicide added to the traditional base rate. Answering this question would require longitudinal analysis of category-specific homicide, and, to our knowledge, this has not been done. This is clearly one direction research on Southern violence should take, for without it, it will be impossible to develop a theoretical framework which accounts for these trends. Social policy considerations are also dependent this kind of data. Deterrent and preventive measures are notoriously lacking with respect to situational homicide; however, this is not necessarily the case with respect to felony-type homicide. Also, one of the most significant effects of a change in the type of homicide is its heightening of public fear. Traditional patterns of homicide in the rural South did not evoke fear, for it was perceived as natural, expected and falling within the control of cultural boundaries (Reed, 1977: 7). Thus, the feeling of security is likely to be lost not so much because of an increase in lethal violence, but because of its changing form. The effect of this on rural community attitudes toward crime begs investigation.

Changing Patterns of Property Crime in the Rural South

The increase in various categories of rural property crime demands further research as well. While the rates of property crimes remain generally much lower for rural areas nation-wide, the rate of increase tends to be much higher than in urban areas, especially for robbery, burglary and auto theft (Swanson, 1981:21-22). This, as noted in the discussion on violent crime, should be an expected pattern based on

historical and cross-cultural analyses of crime trends. Economic development, affluence, and increasing property crime are well known as concomitants. Currently, and in the future, it is the South, including the rural South, which will experience all three.

A number of research opportunities lie here. First, a number of victimization studies have been carried out and victimization studies should be continued (Phillips, et al., 1980). Victim surveys provide a number of advantages over official statistics, especially for offense categories and populations where there is under-reporting of crimes. Systematic victim surveys in types of rural Southern communities cumulatively would make possible a formalization of hypotheses with respect to crime specific and victim specific patterns (cf. Cohen, et al., 1981). Correlated with social, economic, and demographic features of communities, projections of emerging crime problems may be predicted based on trends of economic and social change. The growth of cities in the South, especially middle-sized metropolitan areas means more and more traditionally rural areas will become satellite communities. We need to know what kinds of rural community structures are associated with highly vulnerable populations (Cohen, et al., 1981). The major application of these kinds of data lie in its utility for law enforcement planning and training and organizing preventive educational programs (Inciardi, 1978: 81-84). Currently, there is insufficient knowledge for such planning which theoretically well-conceived victim surveys could remedy.

Victim surveys, while an important start, are insufficient to a complete analysis of crime. Research efforts must also be directed toward the characteristics of offenders. The question of who commits what kinds of crime is most important, and the data collected by official agencies are limited. No systematic studies of offender traits in the rural South exist, and very few analyses of rural offenders in any region have been carried out (cf. Gibbons, 1972; Ball, 1977). One of the most significant questions which such research may answer is related to the population source of rural offenders. Determining what kinds of crime are committed by local populations is crucial both for theoretical understanding of the criminogenic characteristics of rural social structures, as well as for effective preventive efforts.

The nature of criminogenic aspects of social structures brings up a number of other issues of which rural sociologists interested in crime

in the South must be aware. Not only does urban contact have significant effects, but quite likely so does the changing nature of the structure of agriculture. Contemporary transformations in the structure of American agriculture and rural social organization began in the early twentieth century. Until recently, however, the significance of this change for criminology was its contribution to urban crime. Displacement of rural labor by mechanization swelled the ranks of the urban underclasses. Much contemporary urban poverty in fact has its origin in rural populations, especially Southern populations (Smith, 1974). Dislocation and relocation in the urban-industrial setting creates the classic conditions of higher criminality: culture conflict, social disorganization, and anomie. Stratification and poverty alone are not the necessary and sufficient conditions of high crime, but must coexist with high expectations and affluence (Merton, 1938; Cloward and Ohlin, 1960; Cohen, 1955). Thus, Southern rural populations, while not insulated from poverty (Gastil, 1975: 197-199), were not historically exposed to the structural condition of anomie. Therefore, until very recently, crime remained primarily an urban problem while poverty was not so limited.

The question before us now is the extent to which the changing structure of agriculture is creating a sufficient condition for a rural crime problem. Generally, agriculture has changed from a labor intensive to a capital intensive activity. Size of farms increase and family farms decrease as a consequence (Heady, 1981). This is beginning to occur in the South (Zechetmayr, et al., 1982). Rural populations progressively become non-farm populations engaging in support occupations or employed at points remote from the community. A rural middle-class increases as does affluence. An increase in wealth increases the availability and desirability of crime targets. Inequality increases status frustration under such conditions. Areas having historically different agricultural structures are likely to have different structures of inequality. Plantation tradition produces very high structural inequality. Areas with such a tradition, even if and especially if, they experience an increase in affluence should have higher proportions of their populations located in criminogenic categories of the social structure. Areas with historically small scale agriculture may experience the same increase in its middle-class and affluence, but with much less significance for criminal behavior in its population.

The structure of agriculture may also influence the vulnerability of rural populations to crime. Decline in the proportion engaged in full time agriculture necessarily increases the amount of out-of-home employment and the proportion of working women. The consequence, then, is more wealth which is less secure. If empirical evidence supports these suggestions, the specific projections of increase in rural Southern crime may be predicted and resources and preventive measures allocated accordingly.

RURAL JUSTICE SYSTEMS IN THE SOUTH

The social organizational features of justice systems are critical factors in understanding patterns of crime and crime problems. Over the last two decades sociological analyses of urban courts and law enforcement agencies have accumulated considerably (cf. Wilson, 1969; Blumberg, 1967; Skolnick, 1966). The state of our knowledge of rural justice has remained much more limited, less systematic, and anecdotal in nature (cf. Brakel and South, 1969; Handberg and Unkovic, 1979; Caudill, 1963).

Existing literature suggests a number of research issues. The change in the social environment of many rural Southern courts is likely to result in bureaucratization of the court processes. As populations increase and the number of cases processed increases, the consequence is an increasing bureaucratic nature of court processes and relationships (Hagan, 1977:597). Such changes give a very different character to justice in that there is an increase in the dominance of formal justice over substantive justice.

The attempted achievement of formal and substantive justice often poses contradictory goals for courts. Formal justice is achieved when decisions reached are consistent with the written rules of legal process. Substantive justice, on the other hand, requires decisions consistent with the circumstances of cases. The former is technical justice while the latter is "individualized" justice. Bureaucratic court systems are structured to render formal justice.

What we know of rural courts indicates a greater emphasis on substantive justice. Such courts are less inhibited by technical concerns, and operate much more on the basis of informality and consensuality in the relationships of court functionaries (Brakel and South, 1969). This may be either an asset or a liability for the defendant. In cases where routine formal procedures are followed, defendants may find due process protections neutralized. For example, urban courts are more likely to

process and commit defendants accused of mental illness, while rural courts have a lower rate of involuntary commitment due to greater familiarity with cases (Scheff, 1964). On the other hand, the relative absence of formal concerns may result in the social and personal attributes of offenders (also "substantive" criteria) influencing decisions to a greater extent (Hagan, 1977: 609).

It is then quite likely rural Southern courts exhibit uniqueness. Legal functionaries, we know, vary a great deal in their exercise of discretion, in the influence others in their role-set exert over their behavior, in the orientation they have to the use of law, in their decisions to arrest, to prosecute, and to sentence (cf. Cole, 1970; Ungs and Baas, 1972; Bankston et al., 1981). At present, however, how the variables of ruralness and Southernness influence legal processes is an open empirical question.

CONCLUDING REMARKS

The foregoing is not intended as a comprehensive or exhaustive statement on the subject of rural crime in the South. It is rather to be interpreted as a sensitizing statement on some directions further research may take. The needed research is obviously multidimensional and quite likely will represent an opportunity not for rural sociologists alone, but for all sociologists with interests in social change, crime, and the law.

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Rural Crime Research: An Overview of Victimization
And Offender Studies

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INTRODUCTION

The purpose of this paper is to review the status of rural crime research in the United States. It will seek to do two things: highlight completed or on-going rural crime research, and discuss issues of importance to the conduct of this research. These two dimensions to the paper will be discussed relative to two major types of rural sociological research: victimization patterns of the rural population, and studies of the rural offender.

VICTIMIZATION RESEARCH

The victimization survey represents a data collection procedure used to estimate the extent of crime within a specified geographic area, by means of a representative sample of the population, from whom information about specific criminal incidents within a specified time frame are gathered. One of the major advantages of the victimization survey over official police statistics is the researcher's ability to measure crime events which are not reported to law enforcement by citizens (Biderman, 1974).

One final note on victimization research is necessary. Generally, victimization rates are reported as annual rates, and unless otherwise indicated, all studies reviewed below use a 12 month referent period.

Victimization research came rapidly into vogue during the mid-1960's, and it was not long thereafter that a victim study was conducted in what must be considered a marginally urban environment. Beran and Allen (1974) conducted a victim study in a small midwestern town (pop. 11,250), located in a county of about 30,000 people with a largely agriculturally-based economy. Although the authors failed to report the extent of crime occurring, they did note two findings which have been, by and large, repeatedly discerned by successive rural victim research. First, and to quote Beran and Allen (1974:392): "The bulk of Lincoln's crime problem is vandalism, petty larceny, and alcohol-related offenses. It is therefore not too surprising that much of the town's crime is juvenile in origin." Second, the authors found a high rate of unreported crime (about 50 percent of all incidents reported by respondents in the survey).

Although rural crime rates have risen rapidly, and perhaps it was only a matter of time before criminology would shift its focus to the comparative study of crime, both urban and rural, the advent of the victimization study provided a research tool accessible to the non-criminology "fraternity." The focus of victimization research (i.e., the victim) is radically different from the predominant and traditional focus of criminology (i.e., the offender). Although the sub-field of victimology has grown to become an accepted arena for criminology, a victim-oriented approach also has allowed the applied, social problem orientation (Cuber et al., 1964) of rural sociology to enter into the study of rural crime. During the 1970's, most of the pioneering efforts relative to the sociological study of rural crime have in fact come within the field of rural sociology. Furthermore, research efforts currently underway

indicate expanded participation of rural sociology in rural victimization research.

The most influential studies of rural crime during the 1970's were conducted by G. Howard Phillips, founder and former Director of the National Rural Crime Prevention Center at The Ohio State University. First funded by the Ohio Farm Bureau Federation, four separate studies were completed, two of which are germane to the topic of victimization. The first was an attitude survey of farm bureau council members in which Phillips (1974:221) found that the most often mentioned reasons for the increase in rural crime was laxity of courts, lack of law enforcement, laxity and breakdown of family life, and population increase.

The Farm Bureau Council study served as a preliminary investigation in order to design a state-wide rural victimization study, the results of which were published in 1975. Phillips' (1975) conclusions were similar to the findings of Beran and Allen (1974) in that: (1) vandalism and larceny were the most frequently occurring crimes to rural residents; and (2) slightly less than one-half of all crime events were reported to law enforcement officials.

Phillips research served as the major catalyst to a number of rural victimization research reports and studies. In part, these included a number of theses and dissertations by students at The Ohio State University from the data generated through victim studies (see Flickinger, 1976; Heller, 1977; Kreps, 1977; Dada, 1979; Wurschmidt, 1980; Cox, 1981, and Steiner, 1981).

At the same time, studies in several other states were begun. One of the first to focus on farm crime was completed by Bean and Lawrence (1978) in West Virginia. The study reported on results of interviews with 100 farm operators in Hampshire County. They found larceny, trespassing, and vandalism to be the most frequently occurring crimes. However, arson to farm buildings was the most costly.

Smith (1979) conducted a victim study among 481 rural residents in a predominantly agricultural county of northwestern Indiana. This study, funded under a fellowship program of the National Institute of Justice and partly funded by the Indiana Agricultural Experiment Station, found a pattern of crime strikingly similar to Beran and Allen (1974) and Phillips (1975). Vandalism was the most frequently occurring type of crime, with household-related larceny second. However, perhaps the greatest contribution of Smith's study was that he directly modeled the victimization section of the survey instrument on the classification scheme and wording form of the National Crime Study (National Research Council, 1976). In addition, the crime data collected by Smith was put into a format directly comparable with the victimization rates calculated from the National Crime Study. One interesting finding from this comparison was that the "forcible entry burglary" rate for this agricultural community was nearly equivalent to the rate found in SMSA's of one million and more persons by the National Crime Study (Smith and Donnermeyer, 1979).

Donnermeyer (1982, forthcoming) replicated the efforts of Phillips, Smith, and the National Crime study under the same Indiana Agricultural Experiment Station project mentioned above in Pike County, which is located

in the coal region of southwestern Indiana. The rate of vandalism and burglary were very similar to the results found by Smith (1979), however, personal larceny rates were substantially lower (Donnermeyer, 1982 forthcoming).

Several other state victim studies have been completed including Texas (Moore and Teske, 1981), Missouri (Galliher et al., 1980), and South Dakota (Dahlin et al., 1981). Moore and Teske (1981) found that 19 percent of rural Texans participating in their study experienced at least one victimization. Nearly two-thirds of all incidents reported were either larceny (34.9 percent) or vandalism (30.0 percent). Galliher et al. (1980) estimated that 23 percent of rural Missourians annually experienced one or more types of crime, and again, larceny and vandalism were the two most frequently reported crime types. In a follow-up rural-suburban crime study conducted within a central Missouri county, Holik et al. (1982) found crime affecting 16 percent of all households, with larceny and vandalism once again representing the leading crimes. Finally, Dahlin et al. (1981) conducted a state-wide study in South Dakota and found that urban victimization rates were higher for each crime type than the rural rates. However, within the rural sample, victimization rates generally were higher among "rural nontown" persons than the "rural town" population. Uniformly, for all three population categories, vandalism and theft were the first and second most frequently occurring crime types respectively.

In addition to the study of rural residents as victims, several studies have been conducted relative to rural businesses and public property. Cox (1982) completed a thesis on the pattern of crime to farm retail markets (roadside farm markets and U-Pick operations). The results indicated that nearly three-fourths of farm retail markets experienced crime, and that may be an underestimate, since it is impossible to accurately determine in a victim survey the rate of shoplifting and employee theft. The previously cited research by Smith (1979) and Galliher et al. (1980) also contained small samples of rural businesses. Although neither one represents an in-depth look at crime and rural businesses, both are valuable as pioneer research efforts, and should be used to design more extensive studies in the future.

The farm retail study, plus another on the extent and cost of road-sign vandalism and theft (Donnermeyer, et al., 1980) represent two studies recently undertaken as part of an Ohio Agricultural Research and Development Center funded rural crime project by the National Rural Crime Prevention Center. One additional study also has been completed under this project. It is a replication of Phillips (1975) state-wide rural victim. The study is significant in two ways. First, the new state-wide victim study utilized the identical sampling of the earlier study (Phillips, 1975). Together, these two Ohio victim studies represent the first longitudinal data base available on the phenomenon of rural crime. Second, the new study focused on the crime prevention features of the rural home as well as the security habits or behavior of rural people, and attempted to develop these in a way that a direct correlation (or lack thereof) could be made between victimization probabilities and security levels. At present, there exists only scanty research available, either urban or rural, in the area of crime prevention (see especially Repetto, 1974).

Finally, a review of rural victim research cannot be complete without

reference to several other studies. Kelly and Burdge (1979) included two victimization items on a recently completed state-wide attitudinal survey of Illinois. This resulted in the completion of a report which compared victim ratios on a rural-urban continuum (from the Chicago sub-sample to open-country respondents). The office of Criminal Justice Programs (1978), State of Michigan, has annually carried out a citizens' attitude survey about crime, and similar to the Illinois study, included two generalized victimization questions. Also similar to the Illinois study, the statistical reports from the Michigan study provide comparative rates of victimization by place of residence (from Detroit to the open-county). Adamchek and Wade (1981), using FBI Uniform Crime Report statistics and Bureau of Census information examined the relationship between population change and crime rates for rural Kansas.

RESEARCH ISSUES -- RURAL VICTIMIZATION RESEARCH

At present there are a number of State Agricultural Experiment Station and other projects which have been proposed or recently funded. Significant among these is the work of: (1) Carter and Beaulieu, Rural Development Center, University of Florida -- these researchers are gearing up for a state-wide rural victim study in Florida, and have received funding for the project from the Southern Regional Development Center; (2) Roebuck and Cosby, Department of Sociology, Mississippi State University -- the draft of a Mississippi State Agricultural Experiment Station project has been partly completed, with actual data collection to begin probably during late '82 or 1983; (3) Southern Regional Development Center -- extension/research interest network has been organized under the leadership of Carter and Beaulieu, University of Florida; (4) North Central Regional Development Center -- extension/research interest network has been approved and will be organized and chaired by Donnermeyer, National Rural Crime Prevention Center; and (5) The National Rural Crime Prevention Center has received two grants, including one from the National Institute of Justice to conduct a study of crime to farm operations (anticipated sample size = 1,200), and one from the Andrus Foundation of the National Retired Teachers' Association/American Association of Retired Persons to prepare a report on the extent and fear of crime to the rural elderly.

These five projects were briefly described to illustrate that, if anything, rural victim research will continue to increase in popularity, particularly in the field of rural sociology. As such, it is timely to discuss several issues of importance to the conduct of rural victim research.

One of the most important issues is that of the commonality of research designs. Given the vast resources which have been applied to the National Crime Study, as well as the already completed rural victim studies mentioned above, there exists a unique opportunity for future research in this area to be designed in a way that allows direct and valid comparisons on the extent and nature of rural crime between different states or study areas. There are three major areas where this is especially critical: (1) the wording format of crime types; (2) sampling procedures; and (3) data collection techniques. These issues are discussed in detail by the National Research Council's (1976) review of the National Crime Study. Research interest networks, such as the two mentioned above, can prove to be invaluable forums for the researcher. With increased comparability forthcoming, the opportunity to delineate state and regional variations in the extent and nature of rural crime in America will be possible in the next several years.

A second research issue, and one that will become increasingly important, is the need for longitudinal studies of victimization patterns to the rural population. Crime rates have increased substantially for the rural population since World War II, and many of the major social changes which have affected the structure and quality of life of rural American society in other areas, may also be hypothesized as directly affecting victimization probabilities. For instance, do rural communities experiencing population growth likewise experience higher per capita increases in crime (Adamchek and Wade, 1981).

Rural victim research of specific sub-sectors of the rural population is increasingly needed, and this represents a third research issue. For instance, other than the study by Bean and Lawrence (1978), and the recently funded project of the National Rural Crime Prevention Center, "agri-crime" is a nearly neglected topic, yet one that would appear to have an excellent chance of receiving support from the private, as well as the public, sector. The crime experiences of Ohio's farmers are probably quite different from the citrus growers of Florida and the ranchers of Wyoming. Other important rural population sub-sectors include the elderly, rural businesses (ranging from lumber companies, to farm implement dealers), rural public property (ranging from recreation and park areas to public utilities), and rural institutions (from Grange Halls to churches).

A fourth and final research issue to be discussed in this paper concerns the relative effectiveness of home and farm security measures in reducing victimization probabilities. Environmental design theory, as developed by Newman (1972), Gardiner (1978) and others suggests that environmental conditions significantly affect crime rates. Obviously, the physical environment and human ecological patterns vary widely throughout the rural United States, and these conditions may affect not only the vulnerability of the rural population, but also the ability of traditional target-hardening techniques (i.e., lights, locks, alarms, and dogs) to protect rural citizens.

RURAL OFFENDER RESEARCH

Offender research represents the more traditional orientation of criminology. This author must confess that he is far more familiar with rural victim research than with rural offender studies. For this reason, the review of rural offender studies below is far from complete. However, it is a no less important area for research among rural sociologists than a focus on the rural victim. This is the case for two basic reasons. First, research on the rural offender may do much to challenge established criminological conceptions of factors affecting criminal behavior. Second, the ultimate form of crime prevention is not the improvement of locks, lights, alarms and other kinds of target-hardening techniques but rather the socialization of persons who are not motivated to engage in illegal types of behavior. Although this may sound extremely idealistic, there are at present many educators, professional and adult volunteer workers in youth programs, church and community leaders, and parents who are searching for answers as to why rural youth (in particular) closely parallel their urban cousins with respect to the extent of their participation in behaviors which are regarded by the dominant adult culture in American society as illegal or somehow deviant.

One of the earliest statements on the rural offender may be found in A SYSTEMATIC SOURCEBOOK IN RURAL SOCIOLOGY (Sorokin, Zimmerman and Galpin, 1930). Synthesizing the then available research on rural crime

within the United States and fourteen other countries (mostly European), they concluded that the rural population tends generally to be more law-abiding, however, among the "agricultural class," criminality was more likely exhibited in terms of violent crime. Melvin and Smith (1938:84) observed the "wholesome use of leisure time plays an important role in preventing crime and delinquency" among rural youth.

In the past three decades, studies on crime and delinquency in rural areas have been limited. Only eight articles related to the subject of rural offenders have appeared in RURAL SOCIOLOGY since its inception in 1936. The first article was reported by Smith (1937) in a study of delinquency in Kansas. Smith found that where the population size of the surrounding counties was smaller than the local community, the size of delinquency rates was inversely related to distance from urban communities. A second article appeared in 1939, the result of a study of four rural counties in Massachusetts. In this study Jones (1939) observed that nearly 60 percent of crimes committed in a rural community were perpetrated by nonresidents. Additionally, he reported that although approximately 50 percent of all offenders were urban residents, these same urban residents accounted for more than 67 percent of all property offenses.

Rural-urban aspects of adult probation in Wisconsin were studied by Gillin and Hill (1940). Examined were the successes or failures of farm, rural nonfarm, and urban probationers relative to selected social characteristics, history of previous arrests, and factors associated with the probation period. Violation rates were found to be lower for farm probationers, regardless of the length of maximum sentences. The "rural way of life" was viewed as being more conducive to maintaining probation rules.

A fourth article appeared in 1942 authored by Useem and Waldner. Examined were crime patterns in a rural South Dakota county over the period from 1890 to 1940. They reported that crime rates in town were higher than among farmers. Additionally, they concluded that criminal activity did not involve organized gangs, and that the rural offender operated alone more often than urban offenders. Lagey, in a study of the ecology of crime in rural Pennsylvania, tentatively concluded that rural delinquency was less related to ecological variables than urban delinquency (1957). He hypothesized that social, rather than ecological, variables were more important in explaining rural delinquency.

Steffensmeier and Jordan examined data from the FBI's Uniform Crime Reports relative to patterns of female offenders. They concluded that the rate of crimes committed by rural females from 1962 through 1975 was increasing, but that females living in rural places continued to be responsible for fewer crimes than females from urban places.

The last two of the eight articles appeared in 1980. Bankston and Allen (1980) tested the relative effects of subcultural and socio-demographic factors associated with lethal violence in rural parishes of Louisiana were contingent upon both a "cultural tradition" of violence, and the structural conditions of income inequality and high levels of poverty. Fischer (1980) compared violent crime rates of different sized communities in California. He found that the difference in violent crime rates between urban and rural California have increased between 1955 and 1975. Although offering no specific explanation for this trend, Fischer

does suggest that rural-urban differentials may be understood within the framework of a cyclical diffusion model by which cultural norms spread from urban centers to the hinterlands.

Few specialists in the field of criminology have given more than passing reference to the rural offender. However, Clinard (1942, 1944) did observe that rural offenders do not manifest characteristics generally associated with the chronic criminal social types which were thought to be generated by the urban environment, such as: (A) an early start in criminal behavior; (B) progressive knowledge of criminal techniques and crime in general; (C) the use of crime as the sole means of support; and (D) the development of the self-concept of being criminal. Lentz (1956) studied youth at state institutions in Wisconsin and found that rural males were more likely institutionalized for lesser offenses such as chronic misconduct and petty theft, and less likely for more serious crimes such as auto theft and grand larceny. Clark and Wenninger (1962), Felhusen et al., (1965), and Hartung (1965) also made important contributions to the study of the rural offender. More recently, two professional papers on rural delinquency were delivered at the 1976 annual meeting of the American Society of Criminology (see Ball, and Thilmony and McDonald).

The literature cited above, as well as studies by Polk (1969) in Oregon and Phillips (1976a), Barber (1976), and Bartlett (1976) in Ohio reveals a consistent set of characteristics which comprise the rural offender: single, male, less than 25 years of age, and a resident of the local community.

Nearly all of the studies reviewed thus far are based upon official statistics (i.e., arrest records). A different method for studying the offender is the self-report method, which goes directly to the offender to measure criminal behavior irregardless of whether the offender has ever been apprehended. Two self-report studies of involvement in vandalism by rural youth determined that a slight majority have committed one or more acts of property destruction (Donnermeyer and Phillips, 1982 forthcoming). In both studies, it is found that the site for approximately 75 percent of the most recent acts of vandalism committed by these rural youth was in their county of residence. The predominant motivation for rural youth participation in vandalism was "for kicks." Vandalism was perceived as a game or contest, and was characterized by Donnermeyer and Phillips as "normatively acceptable" behavior among young people residing in rural areas.

These findings suggest that a great deal of the rural crime problem is "local" in nature, and that the informal social control mechanisms operative through such traditional rural institutions as the family, school, and church are today less influential in maintaining lawful behavior within the rural population, especially rural youth. For instance, research by McIntosh et al., 1981, Napier and Pratt (1982 forthcoming), Natalino (1982, forthcoming), Miller (1982, forthcoming) discovered that rural high school aged students were comparable to their urban counterparts in frequency of drug usage.

RESEARCH ISSUES -- RURAL OFFENDER RESEARCH

One of the major issues associated with offender research is that of validity, that is, what is it that arrest records and self-report studies measure. Arrest records, such as those found in the FBI's Uniform Crime

Reports trace several major problems. The first and most basic issue is that a "first offender," as the criminal justice system euphemistically labels persons arrested for the first time, should more accurately be described as "first time caught." An examination of arrests rates between urban and rural law enforcement are not measures of crime volume per se, but in part of police activity and in part of the effectiveness of law enforcement. A second major problem with arrests rates is the variability between jurisdictions and over time in laws, hence reducing the value of cross-sectional and comparative analyses of arrest records. Finally, a third major problem with arrest records is the discretionary patterns of law enforcement, that is, the decision-making process by which police agencies determine that an arrest should be made. The decision to make an arrest often varies according to the characteristics of the offender, characteristics of the victim, and the victim-offender relationship as perceived by the officer.

Self-report offender studies likewise have significant problems. First, self-report measures are dependant upon the integrity of the respondent and the respondent's ability to recall relevant incidents and details. Of course, all survey research is susceptible to the veracity of the respondent. However, the danger is especially acute with self-report studies among youth who may be motivated to embellish their involvement in some illegal activities, or conceal their involvement in other activities.

A second major problem with self-report offender studies, and perhaps the more serious, is that they are not systematic. At this point in time, self-report rural offender studies represent an "accidental" collection of case studies. For instance, the two vandalism studies by Donnermeyer and Phillips (1982, forthcoming) involved the sophomore class of three rural high schools in three widely different regions of Ohio, and the junior class of two high schools from one county in Southwestern Indiana. Future self-report studies need to go beyond this type of case study approach. For instance, future research on rural youth participation in vandalism could be improved in several ways by utilizing designs which allow for: (1) comparative analyses of grade cohorts, such as 6th graders versus 9th graders etc.; and (2) analyses of a single grade cohort over-time, that is, as a class advances from the elementary level to junior and senior high levels.

A final research issue which needs to be mentioned is that of the development of theoretical models to explain delinquent behavior by rural youth. Criminological theories, such as social control, peer sub-culture, differential association, differential identification, and others are highly suggestive theories, and fit quite well with the "social problems" and social change orientations of rural sociology. However, criminology has largely failed to expand these theories to examine rural youth participation in illegal behavior or the changes in rural society which might account for the so-called increase of rural juvenile delinquency during the sixties and seventies.

CONCLUSIONS

The purpose of this paper was to review the current status of rural victim and offender studies, and to discuss several issues of importance to the conduct of future research endeavors in these areas. Rural crime has emerged in the past several years as a new specialty area within rural sociology, and its promises to be one that will continue to grow in

popularity. Through regional interest networks, such as those sponsored by the Rural Development Centers of the Southern and Northern Central states, individual scholars will be able to build constructively upon the past efforts of others.

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TRENDS IN RURAL CRIME IN FLORIDA
AND THE SOUTHERN UNITED STATES,
1960-1980

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INTRODUCTION

Traditionally, rural areas have been idealized as an environment with a high quality of life. However, rural areas have experienced tremendous social change over the past two decades. Rural areas in the South are experiencing population growth (rather than decline) and industrialization. One change in rural areas that has negatively impacted the rural quality of life is the increase in rural crime. Rural areas have always been viewed as safe, secure places to live and work. However, a growing number of rural communities are experiencing substantially increased amounts of crime.

One indicator of the growing rural crime problem comes from the Uniform Crime Reports published by the F.B.I. and state investigative agencies. These sources show a trend of increasing total crime rates for rural areas in the United States and in Florida since 1959. The total crime rate is based upon a crime index of seven major offenses: murder, forcible rape, robbery, aggravated assault, burglary, larceny, and motor vehicle theft. The first four offenses comprise a violent crime index and the last three offenses comprise a property crime index. Over the period 1959 to 1980, the crime rate for rural America increased 477 percent. (Figure 1). In rural Florida the rate increased by 625 percent during this time period (U.S. Dept. of Justice. 1959-80). An even more dramatic indicator of the rural crime problem is that while the present rural U.S. crime rate is near the 1967 crime rate for metropolitan America, the crime rate for rural Florida is nearly double that rate. The alarming urban crime rates of the mid-1960's were the major impetus for the 1968 legislation creating the Law Enforcement Assistance Administration (Phillips et al. 1980). If this level of crime was considered a "crisis" for urban America, then rural America is surely facing this same crisis today, and the problem is even more acute for rural Florida where the rural crime rate has been at least 50 percent higher than the rural U.S. crime rate for the last 5 years of the 1970's. Not only is property crime in rural Florida nearly twice as high as the rural U.S., but also violent crime is substantially higher in rural Florida. The level of crime in rural Florida is reaching "epidemic" proportions.

America's farms are, of course, a major component of our rural areas. Crimes against farm operations are becoming more and more commonplace. The targets of theft and vandalism against farm operations include agricultural equipment, agricultural inputs (such as pesticides, fertilizers, feeds, and seeds), and agricultural products (grain, livestock, citrus, vegetables, etc.). Reports and case studies of major agricultural crimes are widely distributed across the United States including California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Mississippi, Missouri, New Mexico, North Carolina, Oklahoma, Tennessee, and Washington (Swanson

and Territo, 1980). These criminal incidents are affecting all major agricultural industries such as poultry, livestock, citrus, dairy, ornamental horticulture, and forest resources. While there is a general lack of information regarding the economic impact of crimes against agriculture, it has been conservatively estimated at \$3 billion annually (Swanson and Territo, 1980). In Florida, the Farm Bureau estimates thefts to farm operations to be \$21 million per year. In Dade County, Florida, alone, \$1 million worth of avacados, limes and mango fruits are stolen each year (Swanson and Territo, 1980). Thus, agricultural crime in Florida has become a big business for amateur thieves, professional thieves, and organized crimes.

In addition to agricultural crimes, the amount of crime measured by all of the F.B.I. crime index items is increasing. The purpose of this paper is to examine trends in rural crime in the South. Data for this purpose has been drawn from the F.B.I. Uniform Crime Reports. The Uniform Crime Reports provide the only source of longitudinal data for the study of crime. The accuracy and adequacy of the UCR is often questioned (Phillips, et al., 1980; Smith and Donnermeyer, 1979; Phillips, 1975); however, as the only longitudinal data available, the UCR provide an initial perspective on the growing rural crime problem. Also, it has been estimated that as much as 50 percent of the crimes occurring in rural areas are not reported to law enforcement agencies (Smith and Donnermeyer, 1979; Phillips, 1975). If nonreporting is this prevalent in rural areas, then the Uniform Crime Reports provide a conservative estimate of the actual rural crime problem.

Rural Crime in the South

This examination of rural crime trends in the South will be limited to 13 Southern states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. Thus, the focus is upon the Southeast, rather than the Southwest.

First of all, rural crime must be viewed relative to urban crime. That is, even though crime rates are increasing dramatically in rural areas, these areas are still relatively safer than urban areas. The level of crime, as measured by crime rates, is still much lower in rural areas than in urban areas. Table 1 lists the crime rate for the F.B.I. crime index for SMSA's, other cities, and rural areas. The F.B.I. Uniform Crime Reports closely follows Bureau of the Census definitions for these categories. A standard metropolitan statistical area is made up of a core city or cities with a combined population of 50,000 or more inhabitants and the surrounding county or counties which share certain metropolitan characteristics. "Other cities" are urban places (mostly incorporated) that are outside of SMSA's. Rural areas consist of the unincorporated portions of counties outside urban places and SMSA's. From Table 1, it is clearly evident that the extent of crime is significantly greater in SMSA's and other cities, than it is in rural areas. The 1980 crime rates for rural areas range from 1080 in Mississippi to 4224 in Florida, while crime rates for SMSA's range from 5147 in Kentucky to 8926 in Florida. But also note that the level of crime is quite high in the other cities (less than 50,000 in population). The crime rates in these smaller cities range from 3388 in Kentucky to 7957 in Florida. Thus, crime is nearly as high in some smaller cities, as it is in some SMSA's.

Even though the present level of rural crime is much lower than crime

levels in SMSA's, we have already seen that these levels of crime were seen as unacceptable in the 1960's in SMSA's. The rural crime problem can also be seen as rapidly increasing if we examine the trends in crime rates during the past 2 decades. Data in Table 2 show that the level of rural crime has increased tremendously in the past 20 years. Percent increase in rural crime rates ranges from 138 percent in Oklahoma to nearly 600 percent in South Carolina. The increase has been greater in rural areas than in SMSA's for 8 out of the 13 Southern states. Also, the increase has been greater in "other cities" than in SMSA's for 12 out of the 13 Southern states. Table 3 examines the trends in crime rates for rural areas and SMSA's at 5 year intervals. With 4 time intervals across 13 states, we have 52 cells comparing change in rural areas and SMSA's. In 28 of these cells, rural crime increased more than crime in SMSA's. Also, we can see that rural crime rates have increased in nearly all of these time-period calls. Only 4 calls show a decrease in rural crime over any of these 5 year periods. Thus, we see that rural crime has steadily increased by dramatic proportions over the period 1960 to 1980.

One question that may be raised regarding rural crime is whether rural crime is mostly property oriented? Is violent crime only a very small portion of all rural crime? Table 4 provides data on violent and property crime rates. Violent crime rates are calculated from the incidence of murder, forcible rape, robbery, and assault in the total crime index. Property crime rates are derived from the crimes of burglary, larceny, and motor vehicle theft. Violent crime in 1980 ranged from 99 incidents per 100,000 persons for Arkansas to 413 incidents per 100,000 persons in Florida. But property crime ranged from 913 in Mississippi to 3810 in Florida. The property crime rate in rural areas in the states is 8 to 10 times higher than the violent crime rate. Another way to examine the relative size of property versus violent crimes is to examine the proportion that each contributes to the total crime index. The overwhelming majority of the crime index for rural areas consists of property crimes. Over 80 percent of the crime index in these 13 states is property crimes.

In addition to the level of property and violent crime in rural areas, we examined trends in those crime rates. Table 5 provides data on the percent change in these two rates from 1960 to 1980. As we might expect from the larger relative size of the property crime rates, property crime has increased tremendously over this period. The property crime increases ranged from 154 percent in Oklahoma to 833 percent in South Carolina. However, violent crime rates have also increased considerably. Even though they are a small proportion of the total crime index, increases in violent crime rates ranged from 7 percent in Texas to 362 percent in Kentucky. In 7 out of these 13 states the violent crime rate more than doubled between 1960 and 1980. Thus, any study of rural crime and development of crime prevention programs should not focus upon property crime only, but rather should include an emphasis on violent crime.

For the remainder of this analysis, the data will be focused upon rural crime in Florida. The analysis to this point has shown that Florida has had the highest crime rates among these Southern states from 1960 to 1980. Also, Florida has been near the top in increases in crime over this 20 year period.

Rural Crime in Florida

An examination of crime within one state allows one to focus upon the

variance of crime among counties. One might assume that crime rates would vary according to a county's proximity to an SMSA. Table 6 contains data on crime rates among SMSA core counties, SMSA contiguous counties, and non SMSA counties. An SMSA core county contains a city of 50,000 or more persons. An SMSA contiguous county is one which geographically borders an SMSA core county. Data in Table 6 is limited to the 1971 to 1980 period rather than 1960 to 1980 because the Department of Law Enforcement for the State of Florida did not begin publishing uniform crime reports for counties in Florida until 1971. Obviously, crime rates are much higher in the SMSA core counties throughout the 1971 to 1980 period. However, the crime rates are very similar for the contiguous counties and the non SMSA counties. In fact in some of the comparisons, the non SMSA rate is higher than the contiguous county rate. The difference in total crimes between these two types of counties is always less than 300 incidents per 100,000 persons. In most cases the rate of one group is less than 10 percent higher than the other group. The two exceptions occur in the violent crime rates for 1971 and 1980. The violent crime rate for these two years was higher for the non SMSA counties than for the SMSA contiguous counties. In 1971 the violent crime rate for the non SMSA counties is nearly twice the rate for the contiguous counties. Finally, an examination of the percent change in crime rates for these 3 groups of counties shows that the total crime index more than doubled for all counties. However, there is great disparity in the violent crime trends. Violent crime increased the most across the entire period for the SMSA core county. The rate increased for the contiguous counties to a lesser extent. However, the violent crime rate for non SMSA counties decreased between 1971 and 1975 and increased from 1975 to 1980.

Thus, data from Table 6 clearly show that crime is a problem in both SMSA contiguous counties and non SMSA counties. Major concerns over crime in Florida, especially rural crime, have increased in public attention since 1975. Information in Figures 2 and 3 may indicate why the public has become more and more concerned over rural crime. The trends shown in these two figures are limited to the last 5 years of the 1970's. Figure 2 compares the rural crime rates of Florida and the U.S. One can see that the 3 rates for rural Florida were nearly twice as high as the rural U.S. rates throughout this time period. The rural Florida crime problem is much greater than it is for the rural U.S. in general.

Figure 3 illustrates the trends in the crime index by size of community for 1975-1979. Notice that crime decreased for cities with populations of 50,000 or more. However, crime increased for most smaller, nonsuburban communities and rural areas. Only communities with less than 5,000 persons show a decrease in crime.

Conclusions

As stated earlier the Uniform Crime Reports have been viewed as inadequate for addressing the rural crime problem. However, as the only longitudinal data available, the Uniform Crime Reports do document the levels of the trends in rural crime to some extent. Rural crime that is at the level shown and that is increasing as shown in the UCR has major impact upon all sectors of our rural communities including agriculture, education, housing, business and industry, and parks and recreation. Even if the UCR are under-reporting rural crime, the levels of crime that are reported show that we are losing part of the traditional way of life of rural America. The growing rural crime problem significantly deteriorates both social and economic aspects of the rural quality of life.

However, in documenting the extent of the rural crime problem, the UCR provide no information on the nature of the rural crime problem, nor any guidelines on crime prevention. One methodology to probe the nature of the rural crime problem is the victimization survey. Historically, researchers have relied exclusively on the crime rate data supplied by law enforcement agencies. Victimization surveys were developed to examine crimes not reported in official data and the situational variables surrounding crime (Phillips, 1980). These studies examine the nature and extent of crime from the viewpoint of victims. A victimization survey may be defined as "... an alternative data collection tool which estimates the extent of crime through statistically representative sampling within a specified geographic area, in which information on specific criminal incidents within a predefined time frame are recorded directly from the sample respondents" (Smith and Donnermeyer, 1979). The first major victimization study that specifically studies rural crime was conducted in Ohio in 1975 (Phillips, 1975). Most data available now are only of a case study nature, and research must be conducted utilizing sampling designs capable of valid comparisons of the volume and types of crimes occurring across various types of rural areas. The information developed in such a study will provide a data base for: (a) describing the nature of the rural crime problem, (b) selecting appropriate crime prevention strategies for rural areas, (c) developing and testing of explanatory models of rural crime patterns, and (d) communicating with policymakers at local, state, and federal levels of government.

Systematic information on the extent and nature of rural crime is essential to crime prevention. A better understanding of the nature of the crime problem is necessary for the development of sound educational programs to help law enforcement and rural people cope with the growing crime problem. It is unlikely that increasing the financial resources, facilities, and personnel allocated to rural law enforcement will occur or, if it does, that such increased allocation will have major impacts upon rural crime. Major approaches to prevention and control of crime that will be sufficient will require the development of a base of information, community involvement in the development of programs, and coordination of local resources. The focus upon community involvement in crime prevention is the most likely strategy for success because rural law enforcement will probably continue to suffer from lack of resources. This conclusion is not intended to be critical of rural law enforcement in any way. Rather the suggestion is merely that law enforcement is a retaliatory system that has essential impact after a crime has been committed. Coordinated, community involvement is necessary for a crime prevention system that acts before crimes are committed. Information on the situational variables surrounding rural crime is an important first step in rural crime prevention.

Our rural crime activities in Florida will combine victimization surveys in research and Extension crime prevention programs. Two victimization surveys will be conducted. One study will focus upon rural households and one study will focus upon crimes against farm operations.

A third phase of this research will focus upon rural youth -- youth victimization of crime, youth involvement in crime, and youth attitudes toward crime and crime prevention. Information and implications derived from these three phases of research will be utilized in Extension crime prevention programming. The crime prevention strategy will emphasize citizen involvement (both adults and youth).

Finally, it would be most appropriate for Southern researchers and Extension specialists to cooperate in their rural crime programs. Regional research and regional Extension workshops would be appreciated.

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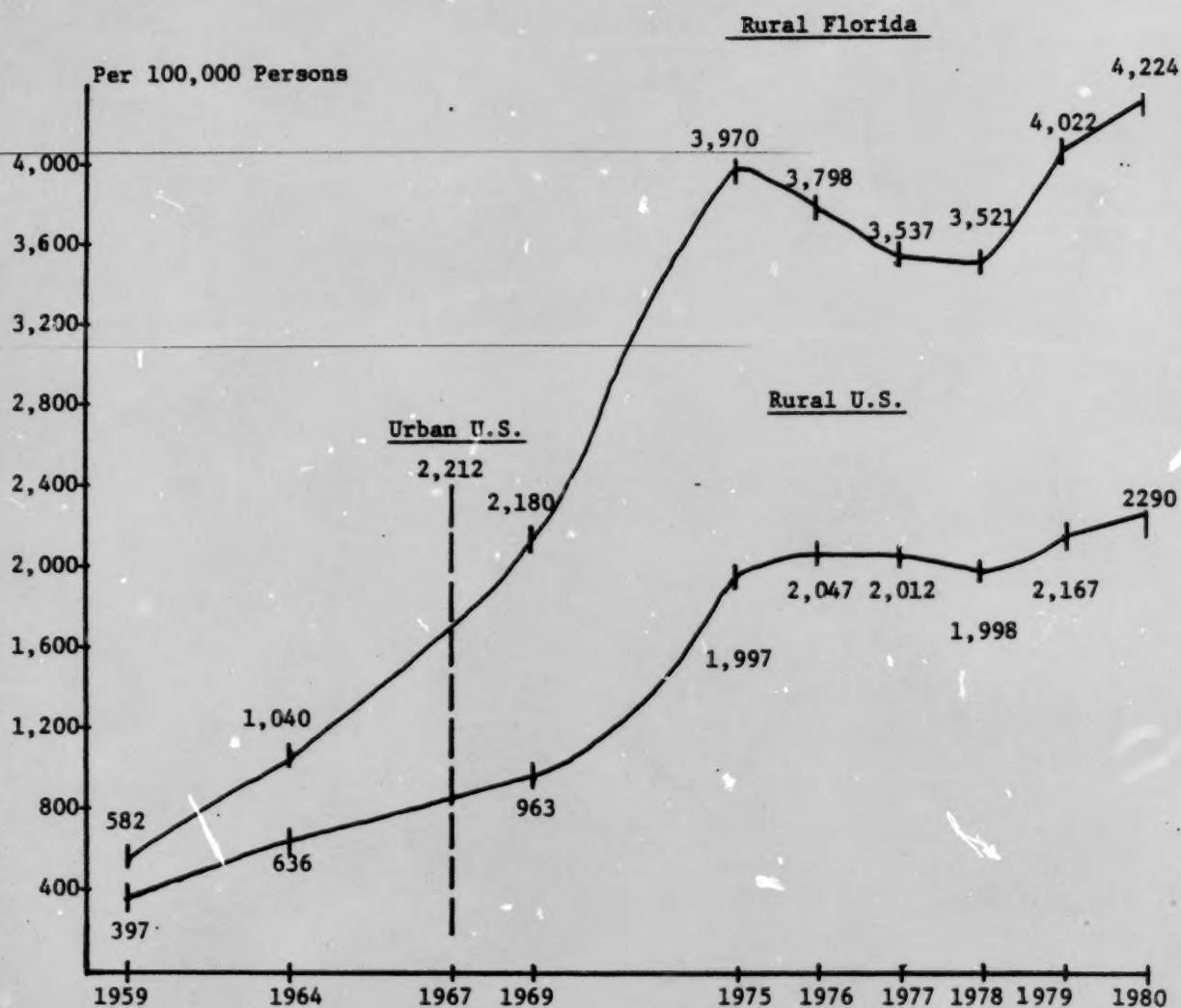


Figure 1: The U.S. Rural Crime Rate and the Florida Rural Crime Rate
(Source: Florida Uniform Crime Reports and F.B.I. Uniform Crime Reports)

Table 1. Crime rates in the South, 1980

State	SMSA's	Other Cities	Rural
Alabama	6296.4	4503.3	1302.0
Arkansas	5808.2	4032.3	1467.4
Florida	8926.1	7957.0	4224.0
Georgia	7044.6	5575.6	2432.1
Kentucky	5147.4	3388.1	1514.3
Louisiana	7096.1	4053.5	1897.5
Mississippi	5684.9	5222.3	1080.4
North Carolina	6011.2	6555.8	2133.1
Oklahoma	6394.3	4558.2	1789.0
South Carolina	6603.7	7014.0	3060.5
Tennessee	5610.8	4583.0	1575.4
Texas	6974.6	4240.5	1723.7
Virginia	5679.0	4858.7	1834.8

Source: FBI, Uniform Crime Reports, 1980

Table 2. Percent change in crime rates, 1960-80

State	SMSA's	Other Cities	Rural
— percent change —			
Alabama	389.0	624.0	277.2
Arkansas	374.2	433.5	430.3
Florida	347.5	601.1	499.8
Georgia	446.8	588.7	470.4
Kentucky	253.7	181.5	469.7
Louisiana	333.3	616.7	424.8
Mississippi	648.8	606.7	323.9
North Carolina	469.7	534.9	429.3
Oklahoma	301.5	611.7	137.5
South Carolina	369.9	728.2	597.9
Tennessee	317.3	438.2	470.2
Texas	369.7	574.5	162.2
Virginia	377.4	513.2	449.2

Source: FBI, Uniform Crime Reports, 1960, 1980

Table 3. Trends in crime rates, 1960-80

State	1960-65	1965-70	1970-75	1975-80	1960-80
— percent change —					
<u>Alabama</u>					
SMSA	25.9	62.7	75.1	36.4	389.0
Rural	-7.7	98.2	43.9	43.3	277.2
<u>Arkansas</u>					
SMSA	17.6	104.3	100.4	-1.5	374.2
Rural	-3.5	154.2	100.9	7.5	430.3
<u>Florida</u>					
SMSA	17.9	80.9	94.9	7.7	347.5
Rural	67.4	44.5	135.5	3.3	499.8
<u>Georgia</u>					
SMSA	28.6	93.7	83.1	19.9	446.8
Rural	34.6	63.5	131.6	11.8	470.4
<u>Kentucky</u>					
SMSA	40.8	64.4	51.9	0.6	253.7
Rural	1.0	182.7	58.2	26.1	469.7
<u>Louisiana</u>					
SMSA	6.4	106.1	50.0	31.6	333.3
Rural	25.1	75.9	86.8	28.7	424.8
<u>Mississippi</u>					
SMSA	8.3	67.6	207.3	34.3	648.8
Rural	97.3	-42.5	153.2	47.6	323.9
<u>North Carolina</u>					
SMSA	44.5	-31.4	397.2	15.6	469.7
Rural	24.4	77.0	94.4	23.7	429.3
<u>Oklahoma</u>					
SMSA	1.7	67.2	129.1	3.1	301.5
Rural	-20.0	44.3	95.4	5.3	137.5
<u>South Carolina</u>					
SMSA	13.4	81.9	85.8	1.0	317.3
Rural	29.7	98.9	113.6	26.6	597.9
<u>Tennessee</u>					
SMSA	21.1	83.6	86.8	1.0	317.3
Rural	45.9	57.7	115.5	15.0	470.2
<u>Texas</u>					
SMSA	15.4	89.9	93.9	10.5	369.7
Rural	1.1	40.9	40.1	31.5	162.2
<u>Virginia</u>					
SMSA	39.0	84.6	82.4	2.0	377.4
Rural	26.5	13.2	256.6	7.5	449.2

Source: FBI, Uniform Crime Reports, 1960, 1965, 1970, 1975, 1980

Table 4. Violent and property crime rates for rural areas in the South, 1980

State	Violent Crime		Property Crime	
	Rate	Percent of Total Index	Rate	Percent of Total Index
Alabama	164.6	12.6%	1137.4	87.4%
Arkansas	99.5	6.8%	1367.9	93.2%
Florida	413.5	9.8%	3810.6	90.2%
Georgia	234.3	9.6%	2197.8	90.4%
Kentucky	158.7	10.5%	1355.6	89.5%
Louisiana	331.2	17.5%	1566.2	82.5%
Mississippi	166.8	15.4%	913.6	84.6%
North Carolina	238.1	11.2%	1895.0	88.8%
Oklahoma	124.6	7.0%	1664.4	93.0%
South Carolina	398.2	13.0%	2662.2	87.0%
Tennessee	167.1	10.6%	1408.3	89.4%
Texas	143.9	8.3%	1579.8	91.7%
Virginia	131.5	7.2%	1703.4	92.8%

Source: FBI, Uniform Crime Reports, 1980

Table 5. Trends in violent and property crime rates for rural areas in the South, 1960-80

State	Violent crime rates	Property crime rates
	1960-80	1960-80
	—percent change—	
Alabama	20.3	376.9
Arkansas	60.0	537.4
Florida	182.1	583.4
Georgia	103.7	605.8
Kentucky	362.7	465.8
Louisiana	209.2	515.4
Mississippi	101.9	430.2
North Carolina	49.7	676.6
Oklahoma	24.0	154.9
South Carolina	159.8	833.5
Tennessee	206.6	534.9
Texas	7.2	202.0
Virginia	35.8	617.4

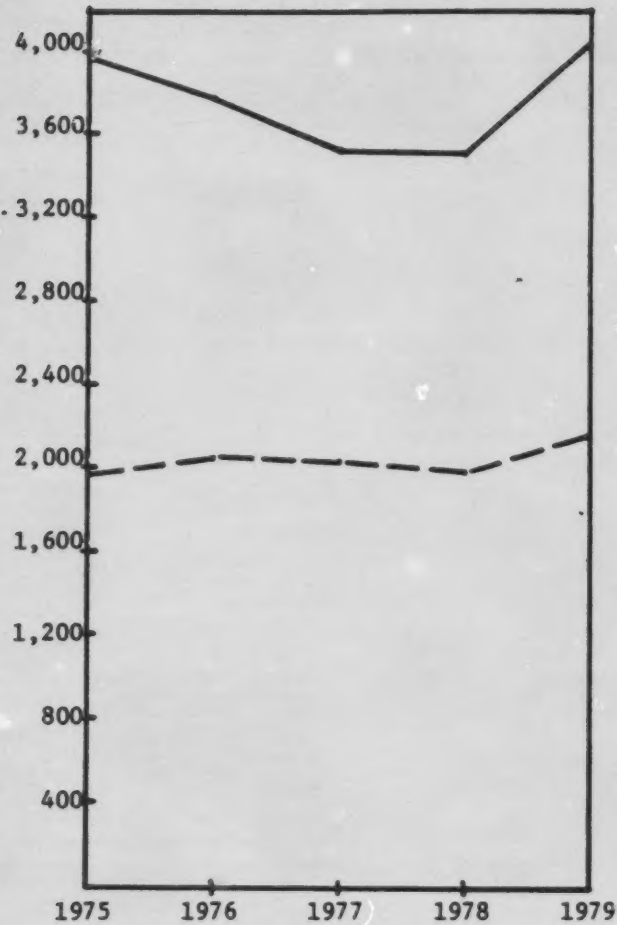
Source: FBI, Uniform Crime Reports, 1960, 1980

Table 6. Crime rates in Florida, 1971-1980

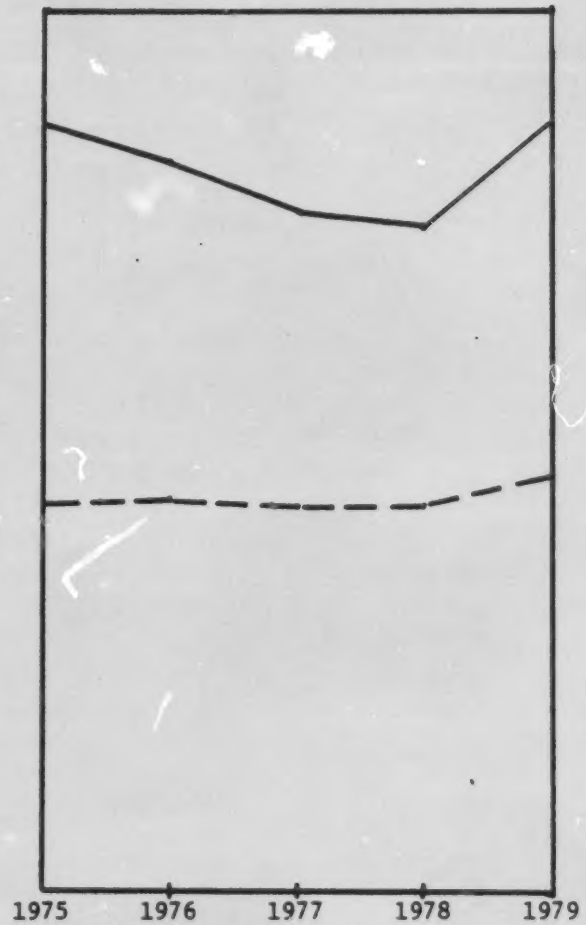
	1971	1975	1980	Percent Change 1971-80
<u>Total Crime Index</u>				
SMSA Core County	4349.8	8391.2	9217.0	111.9%
SMSA Contiguous County	2359.3	5050.7	5406.6	129.2%
Non SMSA County	2548.9	4756.3	5269.6	106.7%
<u>Violent Crime Index</u>				
SMSA Core County	599.6	764.5	1116.2	86.2%
SMSA Contiguous County	289.3	391.3	432.8	49.6%
Non SMSA County	514.0	375.7	510.2	-0.7%
<u>Property Crime Index</u>				
SMSA Core County	3750.2	7626.6	8100.8	116.0%
SMSA Contiguous County	2070.0	4659.4	4973.8	140.3%
Non SMSA County	2034.1	4380.6	4759.4	134.0%

Source: Florida Uniform Crime Reports

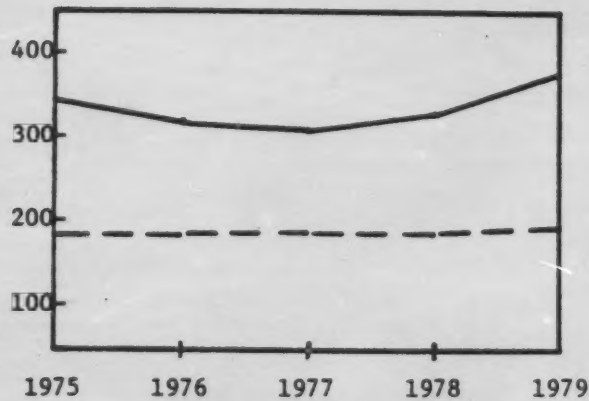
Total Crime Rate



Property Crime Rate



Violent Crime Rate



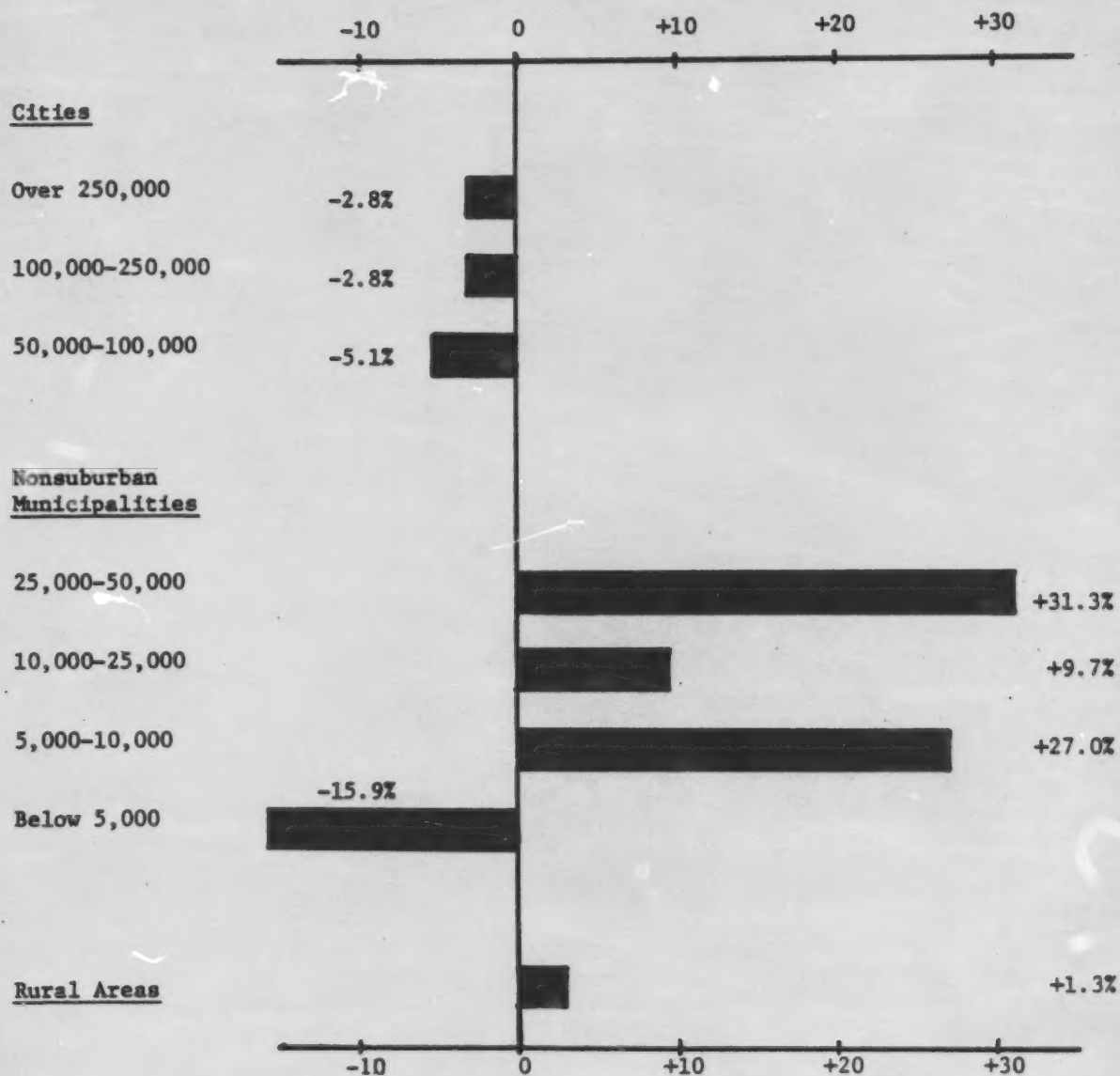
— Rural Florida

- - - Rural U.S.

Source: Florida Uniform Crime Reports
and F.B.I. Uniform Crime
Reports

Figure 2: Property and Violent Crime Rates (per 100,000 persons) in Rural Florida and Rural U.S.

Percent Change in Crime Rate



Source: Florida Uniform Crime Reports

Figure 3: Percent Change in Crime Rate, 1975-1979, by community population size

THE IMPLICATIONS OF INDUSTRIAL GROWTH
FOR POLICE SERVICES AND RURAL CRIME

by

Brady J. Deaton, Joseph Havlicek, Jr.,
V. Agnes Davidson, and Marion Brokaw*

Introduction and Problem Statement

The resurgence of rural population growth over the past decade has created complex management problems for rural community leaders. One major concern is that the quality of life that has attracted many new rural residents may deteriorate if population growth is not properly managed. Traditional problems associated with land-use planning, air and water pollution, and new patterns of labor force participation have been supplanted by the critical issue of growing crime rates in rural areas.

Using data from growing localities, Summers observed a high positive correlation between manufacturing growth and increased police service expenditure. With growing crime rates, the expanded tax base resulting from economic growth may provide insufficient revenues to fund police services at a sufficient level to maintain a crime rate acceptable to the community. Only through collective decision processes can the community determine an acceptable tradeoff between economic growth and various components of life quality, including crime rates. Human costs must be carefully weighted in this process.

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Purpose

The purpose of this paper is to analyze the relationship between growth in rural manufacturing employment and rural crime. In the analysis, the fiscal and demographic impacts of three levels of manufacturing employment in two rural counties of Virginia are simulated. The implications of these impacts for rural crime will be determined by introducing the modified levels of appropriate variables into econometric equations developed by Davidson and Havlicek.

Estimating the Supply and Demand of Crime

The Davidson/Havlicek model is based on Becker's theory that the probability of arrest is the primary deterrent to crime. Following the work of Mathur and Sullivan, they tested the hypothesis that an indirect relationship exists between levels of police service expenditure, levels of police activity as measured by arrests, and crime rates. Arrests, the measure adopted in this study of the output of police departments, are projected as a function of the expenditure level which funds police officers. The number of arrests acts as a disincentive to crime. Thus, arrests and the associated police services expenditure level help determine the quantity of crime supplied. As citizens perceive increases in crime levels, they demand more effective police services. This generally leads to the allocation of additional per capita revenues to police departments.

The clearance ratio, the quantity of crimes cleared by arrest, is used as a quality indicator or as an estimate of the efficiency of police service provision. A high clearance ratio is assumed to indicate efficiency, and

either increased arrests or decreased crime rates leads to a higher clearance ratio. The three equation provision of police-services model and its variables are as follows:

$$(1) \text{ PCQC}_t = f(\text{PCL}_{t-1} \text{ CON}_{t-1} \text{ PNONWP}_t \text{ DEN}_t \text{ INCCON}_t \text{ PNAEMP}_t \text{ BSMSA} \text{ WSMSA} \text{ Z}_1 \text{ Z}_2);$$

$$(2) \text{ CPSEXP}_t = f(\text{PCQC}_{t-1} \text{ CLREV}_t \text{ DEN}_t \text{ POFF}_t \text{ BSMSA} \text{ WSMSA} \text{ Z}_1 \text{ Z}_2);$$

$$(3) \text{ PCARR}_t = f(\text{CPSEXP}_t \text{ DEN}_t \text{ PNONWP}_t \text{ POFF}_t \text{ BSMSA} \text{ WSMSA} \text{ Z}_1 \text{ Z}_2, \text{ I}_1, \text{ I}_2);$$

Equation (1) represents the supply of crime equation; equation (2) is the expenditure function for police services; and equation (3) is the production function of police service agencies.

Variables and measurements are as follows:

PCQC = per capita quantity of crime; total FBI index of crimes per capita

PCL = probability of arrest; percent of FBI index crimes cleared by arrest

CON = probability of confinement; ratio of total felons incarcerated in the state correction system to total arrests for FBI index crimes

PNONWP = proportion of total population that is nonwhite

DEN = population density

INCCON = index of income concentration

PNAEMP = ratio of total wage and salary earners in nonagricultural occupations to total workers employed

CPSEXP = per capita police service expenditures

CLREV = per capita local revenue of the political jurisdiction (city or county)

POFF = ratio of number of sworn law enforcement officers to population

PCARR = per capita arrests for FBI index crimes

PMALEPOP = proportion of population that is male

- WSMSA = zero-one variable representing political jurisdictions within SMSA's
- BSMSA = zero-one variable representing political jurisdictions bordering SMSA's
- Z_1 = zero-one variable representing political jurisdictions with a negative average annual rate of change of population from 1970 to 1977; communities declining in growth
- Z_2 = zero-one variable representing political jurisdictions with average annual rate of change of population greater than 0 from 1970 to 1977; growing communities
- I_1 = term for interaction of location within SMSA (WSMSA) with per capita police service expenditures (CPSEXP).
- I_2 = term for interaction of location on the border of an SMSA (BSMSA) with per capita police service expenditures (CPSEXP).

The above equations were estimated using cross-sectional data on 136 cities and counties of Virginia. The three estimated equations and the levels of significance for each variable are presented in Table 1. In the table, subscripts t refer to 1977; $(t-1)$ is 1976. The coefficients for zero-one variables measure the included variable against the omitted class of the variable. That is, the coefficients for WSMSA and BSMA measure the importance of the variable relative to jurisdictions that are neither within nor bordering SMSA's. Similarly, the significance of Z_1 and Z_2 are measured relative to zero growth communities; and I_1 and I_2 are measured relative to similar interactions for distinctly rural communities, i.e. those which are neither within nor bordering SMSA's.

The three equation model suggests appropriate variables for policy analysis. The probability of confinement in the previous period and the index of income inequality were the two most important variables in the expected per capita quantity of crime equation. The proportion of workers employed in nonagricultural occupations was the third strongest factor associated with crime levels. The per capita quantity of arrests was also

Table 1. The Estimated Coefficients, Coefficients of Determination, and Levels of Significance for Per Capita Quantity of Crime, Per Capita Arrests, and Per Capita Police Service Expenditures for 136 Municipalities in Virginia, 1977.

Equation 1. Per Capita Quantity of Crime Function. $R^2 = .645$

Endogenous Variable	= Intercept	PCL_{t-1}	CON_{t-1}	$PNONWP_t$	DEN_t	$INCCON_t$	$PNAEMP_t$
$PCQC_t$	= -.044157 (.0783)	-.000189 (.0487)	-1.86153 (.05)	.01596 (.02)	.00000879 (.0001)	.054345 (.03)	.038742 (.05)
	$WSMSA$.004745 (.13)	$BSMSA$ -.003819 (.1672)	$Z1$.001662 (.5667)				

Equation 2. Per Capita Police Service Expenditures Function. $R^2 = .8306$

Endogenous Variable	= Intercept	$PCQC_{t-1}$	$CLREV_t$	DEN_t	$POFF_t$	$WSMSA$	$BSMSA$	$Z1$
$CPSEXP_t$	= -5.088599 (.0109)	240.9443 (.0002)	.0298 (.0004)	.002306 (.0051)	6874.099 (.0001)	2.9687 (.1012)	3.20786 (.0419)	4.9796569 (.0031)

Equation 3. Per Capita Arrests Function. $R^2 = .667$

Endogenous Variable	= Intercept	$CPSEXP_t$	DEN_t	$PNONWP_t$	$PMALEPOP_t$	$POFF_t$	$Z1$	$I1$	$I2$
$PCARR_t$	= -1.52735 (.0099)	.024136 (.0001)	.000147 (.0003)	.80851 (.0001)	2.7516 (.0173)	290.040986 (.0002)	-.29157 (.0006)	-.012415 (.0005)	-.01442 (.0001)

Levels of significance at which the coefficients can be judged significantly different from zero are in the parentheses under the estimated coefficients. Reported R^2 values represent the multiple correlation coefficients.

most strongly influenced by the number of police officers hired per capita. The percent of the population that is male exerts the next strongest influence. Since estimates could not be projected for all important variables, the level of employment in nonagricultural occupations and the number of police officers hired per capita are suggested as policy instruments.

Method of Analysis

The Virginia Economic Impact Model was used to estimate the impact of different magnitudes of hypothesized development on economic variables for two Virginia counties, and these results were compared with baseline or ex ante conditions. The Virginia impact model was adapted from an earlier version documented by Clayton and Whittington. The model computes estimates of the potential direct and indirect economic consequences of an exogenous economic change. The impact of this change on local public and private sector income, public sector expenditures, population and employment are estimated.

Estimated employment and revenue figures generated by the impact model were employed in the police services model in order to estimate the expected per capita quantity of crime, police service expenditures and per capita arrests. Results were then compared with baseline conditions. Parameters of the police services model were examined to determine which variables were important as policy tools.

Gloucester and Caroline counties were selected for the study because they have roughly equal population levels. Also, Gloucester County allocates fewer revenues to police services (\$8.16 per capita) and has the lowest number of crimes cleared by arrest of any Virginia county (13.96), while

Caroline County has the highest clearance ratio (48.22) and, spends \$14.53 per capita on police services. Hence, these extreme public service orientations under otherwise relatively homogeneous conditions will provide clarity to the analysis.

In order to examine a range of impacts, a paper products operations (SIC 26) was hypothesized to locate in each community. The level of employment was varied from 100 to 800, and the effects of each level were examined.

Plant characteristics varied as follows:

	<u>Employees</u>	<u>Gross Annual Sales</u>	<u>Average Annual Employee Salary</u>
Impact I	100	\$ 3,000,000	\$10,726
Impact II	400	\$12,000,000	\$10,726
Impact III	800	\$24,000,000	\$10,726

The levels of certain variables in the police service model per capita property tax revenues, the percent of workers employed in nonagricultural occupations, population density and the number of police officers per capita were changed using results from the impact model. These variables were used to project criminal activity and police service efficiency associated with a given magnitude of development. Other variables were assumed to be constant over the three levels of development, because measures of changes could not be projected with the model.

The Davidson/Havlicek model showed that the greatest impact on police services and criminal activity resulted from hiring additional police officers. Therefore, additional police service expenditures generated by the development were allocated to hiring additional police officers at a salary of \$9,500. Any residual less than \$9,500 was allocated to equipment purchases and additions to the clerical staff.

Results and Conclusions

The analytical results are summarized in Tables 2 and 3. In both counties, increased levels of manufacturing development produced increased income, population, employment, and public sector revenues as standard growth theory would predict. Although ex ante populations are similar in both counties, the changes in projected income, population, employment and revenues in Gloucester County were of greater absolute magnitude and represent greater percentage changes from baseline conditions than do changes in Caroline County. Caroline County, however, was projected to expend more dollars on police services, and more police officers were hired (by assumption) to supplement an initially higher complement of officers.

The clearance ratio declined in both counties, despite the low initial ratio in Gloucester County and the high initial clearance ratio in Caroline County. A different allocation of public sector revenues was projected for each development, indicating that residents of the two counties have different preferences for an acceptable level of criminal activity. These preferences are expressed through different tax structures, different revenue receipts and different police service expenditure levels. A tradeoff exists between increases in income and decreases in police service efficiency which accompanied development in these two counties posing a complex issue for such communities, i.e. whether increased criminal activity is compensated for by increased income resulting from new manufacturing development.

The police services model shows employment in nonagricultural occupations to be an important influence on the per capita quantity of crime. Communities interested in soliciting industrial development and maintaining a safe social environment may want to consider other employment strategies to

Table 2. Economic Characteristics and Police Service Provision Resulting from Hypothesized Industrial Development in Gloucester County, Virginia, in 1977.

	Impact I		Impact II		Impact III	
	Impact	Percent From Change Baseline	Impact	Percent From Change Baseline	Impact	Percent From Change Baseline
Income	\$78,016,820	2.07	\$82,753,584	8.26	\$89,069,268	16.53
Population	19,253	1.33	20,012	5.33	21,024	10.65
Total Employment	8,951	3.46	9,849	13.83	11,045	27.66
Percent of Workers Employed in Nonagricultural Occupations	.870	.46	.882	1.85	.895	3.35
Total Revenue	3,332,844	1.72	3,501,432	6.86	3,726,217	13.72
Per Capita Revenue	173.11	.38	174.97	1.46	177.24	2.77
Total Police Officers	9	0	10	11.11	10	11.11
Per Capita Police Officers	.000468	-1.06	.000499	5.50	.00048	1.48
Estimated Per Capita Quantity of Crime	.0154	1.32	.0158	3.95	.0164	7.89
Estimated Per Capita Police Service Expenditures	8.1352	-.26	8.4188	3.22	8.3298	2.13
Estimated Per Capita Arrests	.2103	-.71	.2204	4.06	.2145	1.27
Clearance Ratio	13.69	-1.93	13.92	-.29	13.11	-6.09

Table 3. Economic Characteristics and Police Service Provision Resulting from Hypothesized Industrial Development in Caroline County, Virginia, in 1977.

	Impact I		Impact II		Impact III	
	Impact	Percent From Change Baseline	Impact	Percent From Change Baseline	Impact	Percent From Change Baseline
Income	\$66,816,529	2.45	\$71,609,119	9.80	\$77,999,238	19.60
Population	18,195	1.65	19,079	6.59	20,257	13.17
Total Employment	7,112	4.65	8,059	18.58	9,321	37.15
Percent of Workers Employed in Nonagricultural Occupations	.8785	.64	.8928	2.28	.9073	3.94
Total Revenue	2,766,816	2.10	2,937,686	8.41	3,165,511	16.81
Per Capita Revenue	152.070	.45	152.971	1.70	156.210	3.22
Total Police Officers	19	0	21	10.53	22	15.79
Per Capita Police Officers	.00104	-1.89	.00110	3.77	.00109	2.83
Estimated Per Capita Quantity of Crime	.0147	1.38	.0153	5.52	.0159	9.66
Estimated Per Capita Police Service Expenditures	14.41	-.83	14.86	2.27	14.84	2.13
Estimated Per Capita Arrests	.6947	-.64	.7121	1.84	.7090	1.40
Clearance Ratio	47.18	-2.16	46.57	-3.42	44.67	-7.36

diversify the economy and to provide efficient police services through alternative organizational approaches. In order to reduce the increase in per capita quantity of crime, consideration needs to be given to industries which use skills available locally and which induce resident out-commuters to work in the community. This may lead to a reduction in the number of immigrants, thus dampening the effects of increased employment on crime that result from population and density increases. In addition, educational programs to train residents for selected jobs are another alternative. It may be possible to reduce crime rates by implementing some of these strategies, even though such measures are not directly suggested by the model.

Combining the accounting framework of the impact model with the econometric model of police services provided useful information for community development decisions. The flexibility of the impact model also enabled examination of a range of hypothetical developments. The results of each analysis were used to generate levels of criminal activity and police service efficiency corresponding to different magnitudes of development. Joining the two models enables researchers to focus on such impacts of development as employment and income changes and provide finer detail on important community problems such as police service provision. This exercise has been suggestive of further needed research that may lead to an improved community development process.

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CRIME PREVENTION STRATEGIES

By J. Douglas McAlister

ABSTRACT

The concepts and ideas presented in this paper were undertaken to determine whether citizens have a role in the development of crime prevention strategies. It is concluded that citizens can and should be educated to serve as the primary agent in preventing crimes. The citizen oriented program being directed toward the removal or reduction of the element, thus allowing opportunity for a crime to be committed.

INTRODUCTION

Crime is a serious problem faced by every citizen in these United States. Regretably, crime cannot be eliminated, but it is possible for citizens to protect themselves by banding together to reduce criminal opportunity through the development of prevention strategies. The formula for criminal success can be diagramed as a triangle, the three sides composed of desire, ability, and opportunity (Arlington County, Virginia Police Department, 1980). When one side of a standing triangle is removed, the triangle loses its strength and collapses. The criminal may possess desire and ability to commit a crime, but he is dependent upon opportunity to be successful. An important factor in prevention strategy development is that a crime cannot be committed unless the ingredient, opportunity, is present. Lipman (1975) notes that we are making crime too easy for the criminal. We are not so much victims of crime as we are the accomplice.

The purpose of this paper is to provide an introduction to preventive strategies, as well as to discuss public education, fear, and perspectives as they relate to crime prevention.

In the formulation and development of prevention strategies, the citizen has the most control upon provision or removal of the opportunity for

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a criminal act to occur. It is an accepted fact among modern day police administrators that greater citizen involvement in the development of crime prevention strategies is the key element toward the reduction of criminal opportunity, with the benefits being citizens becoming less vulnerable to crime.

According to a study entitled, "Law Enforcement and Older Persons," (1980). The time has already passed when police administrators can argue productively about whether it is better to use a trained professional or a volunteer to carry out prevention strategies. Most of the evidence appears to be in on that question. The answer is; if the criminal justice system had sufficient money and personnel to use trained professionals for all its projects, that would be preferable. In a period of scarce resource management, the money and the manpower aren't there. The real choice that has to be confronted today, therefore, is between performing a new task with citizens/volunteers or not attempting it at all.

Crime is, therefore, not just a problem of law enforcement personnel, but a problem that must be assessed by all citizens, both individually and collectively with their neighbors.

PUBLIC EDUCATION AND FEAR

Research conducted by the Office of Community Anti-Crime Programs of the Law Enforcement Assistance Administration (1979) noted that public education campaigns are an essential tool in most community crime prevention programs. Development of prevention strategies utilizing campaigns draw attention to more than crime, they also help fight public apathy, helplessness and the excessive fear of crime.

The fear of crime (FBI Law Enforcement Bulletin, 1980) is one of the deadlier aspects of criminal activity - deadlier, not necessarily to the victim of a specific crime, but to the community as a whole. It is nourished with each crime committed. Its consequences are more pervasive than the effects of any actual crime. It is an intangible whose cost cannot be allocated to each crime committee, yet its overall cost can be seen in the decline and deterioration of any community.

The development of prevention strategies is made more difficult since citizens perceive crime to be more encompassing than it actually is. They are afraid to visit and conduct business in the central business district of any city. Businesses relocate because of lost income, higher costs, or real or imagined danger. Fear of crime is a cancerous growth which affects the whole fabric of society. Like cancer, it is not always recognized or treated until it is too late.

PERSPECTIVES

There are many perspectives or "ways of viewing" crime prevention strategies and their development. The question that immediately arises is a way of viewing by whom. Are the preventive strategies being viewed from the perspective of law enforcement, educational systems, citizens, business communities, or voluntary associations focusing on crime prevention education. It becomes apparent then that there can be many views on a situation or circumstances, but often implied in the concept of perspectives is that we would "see more clearly" or get a different view.

Crime pays can be an observation or a statement of fact.

Dyer (1980) in a presentation to the Virginia Crime Prevention Coalition states that "Crime Pays" can be an observation or a statement of fact. He goes on to state that in one view, in perspective is that criminals earn a living from crime activity. Another view is that persons other than the criminals earn livings from crime, for example, the police officer, the jailer, the judge, the probation officer, the security and alarm systems persons, insurance salesmen, investigators, and adjustors. A final perspective: The incarceration system is perhaps the most effective career development institution in our society. That is, individuals who have committed petty crimes are incarcerated in situations that bring them into contact with individuals who have still greater skills in crime commitment, and, in turn then, these individuals become better educated in the hopes of being less likely to be apprehended the next time.

Perspective on the development or need for prevention strategies included:

- (1) To assist the public in knowing that they must be involved and help them understand what information is available and how to get it.

- (2) To assist people in understanding the facts about crime, about safety, about fear of injury, and about how they can be involved in preventing crimes against themselves and others.
- (3) To overcome the feeling that people don't think prevention strategies will work. That is, you cannot prevent crime. Perhaps an addition to this problem is that there is not an agreement on what is a crime and what is just some small irregularity one must perform at a given moment.
- (4) To determine how you hook-up all the various groups involved in education about crime prevention and how do we share resources available to do the job?

A condensed way to view these four is: Change attitudes, give information, combine resources, and learn who, what and how to get access to persons already involved in crime prevention education.

CONCLUSION

Citizens can and should be educated to serve as the primary agent in prevention of crimes through the development of preventive strategies. As such, educational programs are being developed at all levels of government to assist in this effort. (McAlister, 1982) Basic among these programs is the fact that three elements are required for the successful commission of a crime; desire, ability and opportunity. Removal of any one or more of these, prohibits the act.

Crime prevention strategy development is a citizen-oriented program directed toward removal or reduction of the element or opportunity. When accomplished as an educational effort, it will appraise citizens of theory, technology, and the practice of crime prevention concepts.

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REGIONAL MIGRATION DIFFERENTIALS IN MISSISSIPPI: 1950-1970¹

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Introduction

In a free society individuals prefer to move to the places where they expect better livelihood. Unhostile environment and favorable employment opportunities are among the major factors which influence the individual's decision to migrate. The two census decades between 1950 and 1970 provide two contrasting periods where the volume of net out-migration was relatively smaller in the 1960s than in the 1950s in Mississippi.

Objective of Study

The basic migration of this study is to analyze the relationship between net migration and the change in employment and rural population in the ten Planning and Development Districts (PDDs) of Mississippi during the periods 1950-60 and 1960-70. Selection of these two independent variables is based on a theoretical model developed elsewhere (El-Attar: 1970, El-Attar and Tarver: 1972).

Description of Districts

On June 11, 1971, the State of Mississippi was officially divided into ten planning and development districts (PDDs) by an "Executive Order No. 81." Delineation and establishment of these districts were based on "Public Law 90-577" and "Part IV of U. S. Office of Management and Budget Circular No. A-95, Revised." The objective of establishing these districts was: (1) to provide a "consistent and geographic base for the coordination of federal, state, and local development programs;" (2) "to minimize inconsistency among federal administrative and approval requirements placed on state, regional and metropolitan development planning activities;" (3) "to eliminate overlap, duplication and competition in state and local planning activities assisted or required under federal programs;" and (4) "to encourage the most effective use of state and local resources available for development planning" (Mississippi Executive Department, 1971). The districts and the 82 counties they constitute are portrayed in figure 1 to provide a schematic presentation of the state.

¹
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Theoretical Model

According to the theoretical model, the process of migration is conceptualized to be a result of one or any combination of the following three major factors: First, mechanization and technological changes; second, attractive or repellent characteristics of environment; and third, compulsion. In other words, the model serves as a framework of the concepts -- mechanization and technological change; attraction and repellency; and compulsion.

For the purpose of the present study changes in employment and rural population were taken as indicators of the above concepts. The underlying assumption is that geographic mobility will be stimulated by the attractive characteristics of places such as better employment opportunities and improved quality of life.

Hypotheses

In view of the above conceptualization, the hypotheses of this study were formulated as follows: (1) There is a direct relationship between net migration and changes in employment and rural population, (2) the changes in employment account for a greater proportion of the variation in net migration than the changes in the rural population, and (3) the PDDs are differentiated with regard to the selected predictors.

Data and Research Methods

The source of data, specification of observational unit, identification of variables, and formulation of statistical model are given below.

Sources of Data

The following were compiled and computed on county basis from the following sources:

Net migration.-- Data on net migration were compiled and aggregated on the PDD from migration estimates by Bowels and Tarver (1965) for the period 1950-60, and by Bowels and Lee (1975) for the period 1960-70. The section on net migration in table 1 indicates that the state has experienced net out-migration of approximately 431 thousand persons during 1950-60 and 268 thousand persons during 1960-70. Concerning the PDDs, the highest net out-migration was experienced by North Delta (-27.8), North Central (-27.6) and South Delta (-27.2) during 1950-60, and by South Delta (-26.4), North Delta (-19.8) and North Central (-18.3) during 1960-70. The Southern district has evidenced the lowest net out-migration rates during 1950-60 (-2.6) and 1960-70 (-1.5).

Employment change.-- Data on employment were compiled and computed from U. S. Census of Population for 1950, 1960, and 1970. The section on employment in table 1 indicates that employment change in Mississippi was -5.60 and 5.37 during 1950-60 and 1960-70, respectively. Table 1 also indicates that employment declined in all the districts except

Central and Southern districts during 1950-60. However, during 1960-70, three more districts viz. Northeast, Three Rivers and Golden Triangle have shown positive employment change.

Rural population change.-- The data on rural population were obtained from U. S. Census of Population for 1950, 1960, and 1970. The section on rural population in table 1 indicates that rural population change in Mississippi was -12.30 during 1950-60 and -9.24 during 1960-70. With regard to PDDs, Southern district was the only one to reflect positive change during 1950-60, followed by the Northeast district in the period 1960-70. Table 2 provides that percent distribution of rural population in the PDDs in 1950, 1960, and 1970. The proportional share of each district has been generally fluctuating from census to census.

Observational Unit

The observational unit in the present study is the county. The last column of Table 1 shows the number of counties in each PDD.

Identification of Variables

During a given annual decade, one identifies the following variables:

M_{ik} = net migration in the i th county and k th district; $i = 1, 2, \dots$

n_a , where n_a is the total number of counties in the k th district,

$k = 1, 2, \dots, 10$.

X_{ijk} = the j th independent variable in the i th county and k th PDD,

where $j = 1$ and 2 . Therefore, when $j = 1$, variable X refers to the change in employment in the i th county and k th PDD.

If $j = 2$, X refers to change in the rural population of corresponding county and PDD.

Statistical Model

The relationship between net migration (dependent variable) and employment change and rural population change (independent variables) is assumed to be a linear one. Accordingly, the utilized statistical model may be specified as follows:

$$M_{ik} = b_0 + b_j X_{ijk} + e_{ik}$$

where b_0 is the intercept; and M_{ik} and X_{ijk} are same as defined above.

Determination of the regression coefficients, b_j and the intercept, b_0 , are part of the objectives of this paper. Estimate of these parameters was obtained by the stepwise regression technique.

Analysis of Findings

Table 3 presents the cumulative R^2 , the coefficients of regression and intercept, and the partial and simple correlation coefficients of net migration and the percent change in employment and rural population in each of the PDD in the two censal decades 1950 to 1960 and 1960 to 1970. With the exception of the PDDs of Golden Triangle and North Central in 1950-60, and the latter district in 1960-70, changes in employment have contributed significantly to migration in eight PDDs. This finding supports the second hypothesis of this study. Changes in employment of these districts accounted for a significant proportion of the variation of net migration in these districts. The percent of variation between 1950-60, for the districts according to the sequence of their listing in Table 3 was 56, 42, 82, 75, 58, 96, 53, and 93. Also, employment accounted for 77 percent of the variation in net migration during 1950-60 in the entire state.

The pattern in 1960-70 was similar in some respects and dissimilar in others: (a) Employment remained the variable of importance in all PDDs except in North Central and South Delta; (b) the magnitude of explained variation was greater in 1960-70 than in 1950-60 in PDDs of Northeast, Three Rivers, and North Delta and smaller in the rest with the exception of the Central District where the variation explained by the rural population was greater. This confirms the third hypothesis.

The higher level of R^2 in certain districts indicates the partial success of the regression model in explaining the variation in net migration especially in those PDDs where R^2 is significant. This high level of cumulative R^2 has not been effected by "saturation." In the mean time, although multicollinearity existed in certain districts (for example, Golden Triangle, North Central, Southwest, and Southern in the 1950s; and North Delta, North Central, and, to some degree, central in the 1960s) its effect was not necessarily responsible for the high magnitude of R^2 , nor did it contribute equally to all districts. This result may be partially explained by the fact that the amount of variation accounted for any independent variable depends on the magnitude and direction of the relationship between changes in employment and rural population on one hand, and between these two predictors and net migration on the other. If the relationship between the two predictors is positive and both relate to migration in the same way, their combined effect will be greater than their separate effect. Conversely, if the relationship between the predictors is negative, their combined effect when taken together, will be less than the singular effect of each. This generalization is supported by the simple correlation between the two predictors in the PDDs of the Northeast and Three Rivers in the 1950s (r 's = $-.008$ and $-.089$, respectively) and of South Delta and East Central in the 1960s (r 's = $-.101$ and $-.175$, respectively).

Finally, it must be indicated that the stepwise regression coefficients are significantly different from zero at the five percent level in at least six of the PDDs in the two censal decades. It is of interest to state that all of the significant coefficients have positive signs; a fact which supports the first hypothesis of this study.

Summary and Conclusion

In this paper, a multiple regression analysis was established for the relationship between net migration and changes in employment and rural population during the 1950s and 1960s in the ten PDDs of Mississippi. The main objective was to test the three hypotheses: (1) That net migration is directly related to changes in employment and rural population; (2) that changes in employment was the first predictor of importance; and (3) that the changes in the selected predictors contribute differentially to net migration in the PDDs.

The policy value of this analysis lies in the attempt to estimate human migration on a micro administrative level by using the PDDs in the state. Some of its major implications should be the understanding it adds to our present knowledge of this area, its application in a further research, and its contribution to the processes of planning and decision-making activities in the state.

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TABLE 1. NET MIGRATION AND CHANGES IN EMPLOYMENT AND RURAL POPULATION IN PLANNING AND DEVELOPMENT DISTRICTS IN MISSISSIPPI: 1950-1970

Districts	Employment ¹								Rural Population ²								Net Migration ³								Number of Counties
	Number			Change				Number			Change				1950-1960				1960-1970						
	1950	1960	1970	1950-1960		1960-1970		1950	1960	1970	1950-1960		1960-1970		1950-1960	Rate	1960-1970	Rate							
				Number	Pct.	Number	Pct.				Number	Pct.	Number	Pct.											
Northeast	36,368	33,382	37,021	-2,986	-8.21	3,639	10.90	95,577	81,217	82,950	-14,360	-15.02	1,733	2.13	-28,049	-21.17	-6,206	-5.36	6						
Three Rivers	63,365	60,828	69,403	-2,537	-4.00	8,575	14.10	162,927	130,570	122,896	-32,375	-19.86	-7,674	-5.88	-40,533	-18.38	-10,785	-5.40	8						
North Delta	69,991	52,985	48,128	-17,006	-24.30	-4,857	-9.17	160,445	146,594	124,708	-13,851	-8.63	-21,886	-14.93	-68,779	-27.76	-41,715	-19.82	7						
Golden Triangle	48,235	45,293	47,684	-2,942	-6.10	2,931	5.28	109,054	99,394	86,688	-9,660	-8.86	-12,706	-12.78	-26,358	-15.22	-18,815	-11.25	7						
North Central	57,967	46,351	43,869	-11,616	-20.04	-2,482	-5.35	133,702	102,887	84,961	-30,815	-23.05	-17,926	-17.42	-57,664	-27.64	-31,079	-18.29	7						
South Delta	71,286	61,986	52,908	-9,300	-13.05	-9,078	-14.65	180,664	138,272	98,653	-42,392	-23.46	-39,619	-28.65	-71,410	-25.17	-65,743	-26.40	6						
East Central	76,188	67,124	65,663	-9,067	-11.90	-1,458	-2.17	174,629	145,906	132,760	-28,723	-16.45	-13,146	-9.01	-55,769	-21.19	-28,705	-12.54	9						
Central	120,076	129,717	143,857	9,641	8.03	14,140	10.90	180,469	161,654	154,372	-18,185	-10.43	-7,282	-4.50	-26,196	-6.52	-27,272	-6.30	7						
Southwest	66,220	56,162	52,490	-10,058	-15.19	-3,672	-6.54	147,188	133,803	126,176	-13,385	-9.09	-7,627	-5.70	-44,895	-19.76	-30,758	-15.23	10						
Southern	113,095	128,514	157,925	15,419	13.63	29,411	22.89	203,433	217,423	218,106	13,990	6.88	683	0.31	-11,542	-2.56	-7,689	-1.31	15						
Total	722,791	682,339	718,948	-40,452	-5.60	36,609	5.37	1,548,088	1,357,720	1,232,270	-190,368	-12.30	-125,450	-9.24	-431,195	-16.53	-268,767	-10.82	82						

¹ Compiled and computed from U.S. Bureau of the Census, U.S. Census of Population, Mississippi, General Characteristics: 1950, Table 43, pp. 79-89; General Social and Economic Characteristics: 1960, Table 83, pp. 173-179; 1970, Table 121, pp. 283-289.

² Compiled and computed from U.S. Bureau of the Census, U.S. Census of Population, Mississippi, Number of Inhabitants: 1960, Table 6, pp. 10-11; 1970, Table 9, pp. 15-16.

³ Compiled and computed from Gladys K. Bowels and James D. Tarver, Net Migration of Population, 1950-60, by Age, Sex and Color, Vol. I, part 4, East South Central States, Washington, D.C., 1965; Gladys K. Bowels and Everett S. Lee, Net Migration of the Population, 1960-70, by Age, Sex and Color, Vol. I, part 4, East South Central States, Washington, D.C., 1975.

TABLE 2. PERCENTAGE OF EMPLOYMENT AND RURAL POPULATION BY EACH PLANNING AND DEVELOPMENT DISTRICT: 1950-1970

District	Employment			Rural Population		
	1950 (N=722,791)	1960 (N=682,339)	1970 (N=718,948)	1950 (N=1,548,088)	1960 (N=1,357,720)	1970 (N=1,232,270)
Northeast	5.03	4.89	5.15	6.17	5.98	6.73
Three Rivers	8.77	8.91	9.65	10.52	9.62	9.97
North Delta	9.68	7.77	6.69	10.36	10.80	10.12
Golden Triangle	6.67	6.64	6.63	7.04	7.32	7.03
North Central	8.02	6.79	6.10	8.64	7.58	6.89
South Delta	9.86	9.08	7.36	11.67	10.18	8.02
East Central	10.54	9.84	9.13	11.28	10.75	10.77
Central	16.61	19.02	20.02	11.66	11.91	12.53
Southwest	9.16	8.23	7.30	9.52	9.85	10.24
Southern	15.65	18.83	21.97	13.14	16.01	17.70
All Districts	100.00	100.00	100.00	100.00	100.00	100.00

Source: Computed from Table 1 above.

TABLE 3. CUMULATIVE R^2 , REGRESSION COEFFICIENTS AND THEIR STANDARD ERRORS, AND SIMPLE AND PARTIAL CORRELATIONS BETWEEN NET MIGRATION AND CHANGES IN EMPLOYMENT AND RURAL POPULATION IN PLANNING AND DEVELOPMENT DISTRICTS OF MISSISSIPPI: 1950-1970

PLANNING AND DEVELOPMENT DISTRICTS OF MISSISSIPPI: 1950-1970											
Planning Districts	Cumulative R^2		Regression Standard Coefficients Error				Correlation Coefficients				Intercept
	Employment	Emp. & R. Pop.	Rural Emp. Pop.	Emp.	Rural Pop.	Simple		Partial			
						Rural Emp. Pop.	Rural Pop.	Emp.	Rural Pop.		
1950-1960											
Northeast	.561	.561	.301	.011	.153	.168	.749	.018	.749	.036	-18.622
Three Rivers	.419	.521*	.206*	.155	.095	.151	.648*	.260	.698*	.419	-15.099
North Delta	.822*	.882*	.605*	.114*	.130	.081	.907*	.492	.919*	.578*	-16.146
Golden Triangle	.947*a	.926*b	.170	.929*	.136	.254	.877*	.962	.530	.878*	- 7.953
North Central	.896 a	.849*b	-.102*	.966*	.076	.173	.279*	.921	-.557*	.942*	- 9.016
South Delta	.748	.932	.541*	-.886	.091	.310	.865*	-.370	.960*	-.856*	-40.678
East Central	.576*	.592*	.523*	.153	.193	.319	.759*	.305	.742*	.193	-13.571
Central	.960	.962*	.599*	.575	.068	.120	.979*	.477	.975*	.233	-11.577
Southwest	.535*	.595*	.355*	.127	.206	.124	.732*	.651	.545*	.359	-12.841
Southern	.935*	.951*	.440*	.107	.051	.054	.967*	.803	.927*	.497*	-12.533
State	.767	.811	.421	.179	.038	.041	.876	.718	.789	.447	-13.450
1960-1970											
Northeast	.711	.870*	.599*	.490	.171	.255	.843*	.584	.896*	.743	-12.476
Three Rivers	.697	.700*	.625*	-.048	.183	.182	.834*	.015*	.837*	-.116	-14.554
North Delta	.982*	.983*	.511*	.130	.137	.326	.991*	.961	.881*	.196	-14.185
Golden Triangle	.737	.836*	.461	.179	.127	.116	.858*	.544*	.875*	.612	-10.602
North Central	.659a	.635b	.118	.665	.222	.389	.640	.797	.257	.650	- 6.327
South Delta	.003a	.003b	-.006	.027	.156	.311	-.028	.520	-.023	.049	-28.362
East Central	.237	.320	-.221*	.090	.174	.106	-.487*	.369	-.462*	.330	-11.728
Central	.960	.977*	.572*	.073	.052	.042	.980*	.540	.984*	.657	-13.523
Southwest	.317a	.270b	.115	.240	.166	.151	.262*	.519	.253*	.516	-13.731
Southern	.860*	.863*	.564*	-.056	.068	.105	.927*	.268	.924*	.153*	-13.947
State	.741*	.794	.461	.213	.037	.047	.861	.622	.815	.452	-12.679

Source: compiled and computed by SPSS package from sources footnoted in Table 1 above.

* significant at .05 level

a cumulative R^2 for change in employment and rural population

b represents R^2 for change in rural population only.



THE TRANSMISSION OF RESIDENCE: A LONGITUDINAL ANALYSIS

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ABSTRACT

Recent descriptions of the size-of-place mobility process are used as points of departure to specify a longitudinal latent variable model which is estimated with data from the four-wave Southern Youth Study panel (1966-79). The model assesses the process by which residential origins are transmitted to adulthood residence as well as the dynamic temporal relationship between residential preferences and location. Residential background has a significant and continuing influence on residential preferences in addition to directly affecting size-of-place location during early adulthood. Young adult residence has an important effect on redirecting preferences during this part of the life course. Most importantly, adult location has a strong effect on contemporaneous residential preferences. Taken together, the results present a complex but plausible explanation of the often reported observation based on cross-sectional surveys of adults that the modal preference is current residence.

Due to space limitations only the abstract is included in these proceedings. For a copy of the paper please write one of the authors.

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GEOGRAPHIC DISTRIBUTION OF UNITED STATES POPULATION,
1960-1980: AXIOMS AND INQUIRES

Edward L. McLean*

INTRODUCTION

Demographers consider data regarding the geographic distribution of population as among the most important that can be collected. Number of inhabitants in a given political entity and number of persons per given spatial unit are thoroughly objective items, subject to accurate quantitative measurement, and among the most reliable data. Economists use such data to assess systems of production, allocation, and consumption as well as to initiate economic base studies. Cultural anthropologists and historians look at population trends and settlement patterns as the basis of concomitant cultural, social, institutional, and residential development. Demographers wish to know numbers of inhabitants within particular boundaries for subsequent computation of trends, rates, and ratios. Then, measures of geographic distribution of population for nations, states, counties, and classification by residence categories are meaningful. The phrase "geographic distribution of population" will be inferred in this manuscript in order to distinguish the inquiry from topics such as age distribution, distribution of population by education, income distribution, etc.

LITERATURE

Literature on the topic of geographic distribution of population in the United States corresponds closely to historical accounts of population movements and trends. A century of immigration created close-knit settlements on the Eastern Seaboard. People moved inland, but the Appalachian Mountains were an immediate barrier. In the Southwest of what is now the U.S., missions, established by Spanish Conquistadors, became permanent settlements. In the 19th century, mountains were no longer barriers and the Ohio and Mississippi Rivers served as highways for commerce and people. Additional large settlements were established on the Great Lakes. Nevertheless, the first ten decennial censuses (i.e., 1790 through 1880) revealed a sparsely settled, predominantly rural nation of rapidly increasing population. Immigration, as well as natural increase, continued to contribute to the population growth.

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Discussion and analysis of population distribution became relevant as the nation's large cities became extremely densely settled in the late 19th and early 20th centuries. Between 1910 and 1920, half of the U.S. population attained the urban residence classification. Economists and geographers plotted population growth and analyzed increasing concentrations of population in states and regions. Sattelite cities and suburbs added population numbers and density in rings surrounding the cities. Social scientists subsequently observed population movement away from central cities, first during the Great Depression and then following World War II. The former was created by conditions of poverty, the latter by conditions of prosperity.

Then in 1950 the Bureau of the Census, U.S. Department of Commerce, unveiled the Standard Metropolitan Area (later to become the Standard Metropolitan Statistical Area, SMSA). This construct, and the related urbanized area, helped demographers to study metropolitan counties and the concentrated area around metropolitan central cities, separately. Analysis of population growth trends for SMSA counties contributed another dimension to the study of geographic distribution of population.

Demographers have summarized the twentieth century movements in the U.S. as mainly southward and westward with concentration in cities that became centers of metropolitan areas. Taeuber and Taeuber (1971) note that depopulation of many SMSA central cities occurred, particularly 1950-1970. The authors demonstrate that declining density of central cities result in increasing densities throughout non-central city SMSA counties and particularly in incorporated places.

Authors have formulated axioms associated with past, current, and prospective geographic distribution of population. Pickard believes that (total) metropolitan growth will continue through the year 2000 in the U.S. (Pickard, 1972). SMSA population growth, 1970-2000, is expected to average 2.09 percent per year in the South and 2.64 percent per year in the West. Pickard forecasts continued growth of urban regions, that will include subsequent SMSA and some non-SMSA counties. His axioms suggest that such growth is to occur at the expense of SMSA central city counties, and currently rural counties.

Something has to cause change in population distribution. Clarke provides a detailed outline of the causal factors, including cultural, political, and demographic headings. Cultural values must facilitate norms leading to mobility and migration of persons within a given population. Political factors are important; government policies, directly and indirectly, determine opportunities for mobility and migration. Policies are logically linked to past and current economic base activities (Berry and Dahman, 1980). Lack of controls on migration; i.e., policies which directly or indirectly stimulate migration, are the rule rather than the exception in the United States (McLean, 1971). Cultural factors reveal that values and norms in the United States actually support population redistribution; we expect rather constant physical mobility and residential movement of selected individuals, families, and groups within our population (McLean, 1971).

The concepts "central place" and "growth center" have been suggested by economists and geographers. One author (Losch, 1954) emphasizes that urban-industrial nations depend on central places, thus affecting historical (and future) geographic distribution of population. Murray and Hege (1972) suggest that, in the U.S., a deliberate policy to encourage such growth centers could result in more systematic population distribution patterns. Population would be directed to current intermediate cities and small SMSA's in their system.

Demographic factors constitute the numerical/quantitative/ statistical means to determine change in population distribution. Some authors have questioned the so-called axioms regarding population distribution, discussed previously in this section. Their literature reviews support the importance of spatial relationships, economic base, and highway, rail, water, and air transportation facilities (Fauth and Gomez-Ibanez, 1980). Multivariate analyses, using net migration data (by age, race, and sex) for states further emphasize for the latter two (economic base and transportation) as well as climate (Lovingood, et al., 1979).

After definitions of national and state boundaries and regions have been established, demographers rely on basic indicators to explain spatial distribution of population. Number of inhabitants in a given geopolitical unit and patterns (growth or decline of that population) are the basic indicators. Density, as a measure of geographic distribution of population, is customarily calculated as population per square mile or square kilometer of land area (rather than combined land and water area within boundaries of geopolitical entities). Density is in reality a ratio of people to land, and is an important demographic indicator. Residence (U.S. Bureau of the Census) categories comprise an important set of demographic criteria for analyzing geographic distribution of population. The basic categories - rural and urban - are sociological but retain formal census definitions, as well. These may be refined by combining geopolitical entities (e.g., counties) or census geographic areas (e.g., regions) with residence category data.

DATA

The method employed in this manuscript is to use counties, in the fifty states, as the geographic units of analysis (The District of Columbia is counted as a county; Alaska boroughs are included in the 1970 and 1980 counts; and Louisiana parishes are counted as counties.)

Population in each county, 1960, 1970, and 1980 is recorded. Change in population for each county is calculated, 1960-1970, and 1970-1980. Between the 1960 and 1970 decennial censuses, the population of 1,378 counties declined and 1,754 increased. See Table 1. During the most recent decade, 564 counties declined and 2,599 increased. This measure doesn't account for the magnitude of population redistribution; in some cases, the numerical and percentage change was modest, in others the change represents substantial population numbers and increase over

time. Nevertheless, this measure implies dramatic population redistribution. Only 564, out of 3,163 counties, lost population 1970-1980, as historical patterns of decline were reversed in many counties. Historical patterns of distribution, in many of the 2,599 increase counties, continue toward urbanization and metropolitanization.

Density data (persons per square mile) for all the counties are recorded for 1960, 1970, and 1980. Six categories of density are delineated. The number of low-density (1-10 persons per square mile) counties remained relatively stable, 1960-1980. See Table 2. However, gains in the higher density counties were substantial during this twenty-year period. The 101-250 persons per square mile category gained 88 counties; the 251-500 persons per square mile category gained 51 counties; and the greater than 500 persons per square mile category gained 37 counties, 1960-1980. This tabulation depicts population redistribution, but not the rather arbitrary patterns suggested in Table 1. We have substantially more densely settled, urban and metropolitan, counties in 1980 than ever before in the history of the United States.

The percent urban population for each county is recorded for 1960 and 1970 (proportion urban is not available for 1980, at this writing). Five categories of urban percentages are specified. See Table 3. Numbers of counties having no urban and less than one-third urban population, declined, 1960-1970. The higher urban categories depicted increasing numbers of counties. The most noteworthy increase was in the 66.7-99.9 percent urban category; there were 379 counties in this category in 1960 and 446 counties in 1970.

The literature indicated that the nine census regions are often used to portray spatial demographic trends. Counts of counties are consequently expedited for the nine regions. See Table 4. Numbers of population increase counties were stable for 1960-1970 and 1970-1980 decades in the North East and Middle Atlantic regions. All other regions indicated substantial gains in population increase counties during the twenty-year period. This tabulation suggests that rather dramatic population redistribution is taking place, toward all regions of the U. S., except the North East and Middle Atlantic.

Discussion from the "Literature" section of this manuscript included research which grouped states according to patterns of net migration, by age, sex and race, 1950-1970 (Lovingood, et al., 1979). Summaries from the counts of counties presented in this manuscript will be placed in the context of three groupings from that research. The first group of states are those demonstrating selected patterns (age, sex, race) of net-immigration; i.e., Arizona, California, Nevada, Texas. The second group demonstrate patterns (age, sex, race) of net-outmigration; i.e., Connecticut, Illinois, Maryland, Michigan, New Jersey, New York, and Ohio. The third is Florida which, as just one state, portrays distinctive net immigration patterns. Patterns of geographic distribution of population examined in this manuscript may be associated with the above state groupings. It must be remembered that counties are the units studied in this analysis and geographic size and composite

characteristics of counties vary greatly within a given state. The three sets of states and a summary of distribution measures are presented in Table 5.

In the first group of states, California and Texas indicate: (a) more (1960-1980) population increase counties, (b) greater numbers of counties with density of higher than 250 persons per square mile, and (c) more (1960-1970) counties with greater than two-thirds of the population urban. The geographic size of counties in Arizona and Nevada will certainly affect patterns in those states. In the second group, most states depict rather stable numbers of counties for the three summary-distribution measures. Illinois is an exception regarding population increase counties; the number of both geographically small and rural economic base counties in Illinois probably contribute to this trend. The number of Illinois counties having density of greater than 250 persons per square mile did not increase, 1960-1980. New York state also portrays some expected patterns for this group; a decline in population increase counties from 56 to 41 during the twenty-year period; and a like number of counties with greater than two thirds urban in 1960 and 1970. Florida certainly indicates expected patterns with more increase counties, greater numbers of high-density counties, and more essentially urban counties.

SUMMARY

Historical trends regarding geographic distribution of population in the United States are reviewed in this manuscript. Counties are the basic units of analysis, which are tabulated by states, census regions, and regional groupings of several states derived from net migration patterns. The measures of geographic distribution of population are: (a) number of population decline and increase counties, three decennial censuses; (b) population per square mile for counties, three decennial censuses; and (c) proportion of county population urban, two censuses.

Review of literature indicates reasonably clear historical trends for the first 150 years of population distribution in the U.S. Then, so-called "axioms" appear in the literature indicating that, for the past forty years, redistribution has tended toward metropolitan areas, with density and population numbers declining in many central city counties and increasing in many non-central city counties. Some authors suggest trends toward large (geographic and number of inhabitants) urban regions.

Concerning population increase counties, several states (Iowa, Montana, North Dakota, West Virginia, and Wyoming) indicate dramatic gains in population increase counties. This finding is evident in the 1970-1980 trends for the Mountain census region, as well. With respect to persons per square mile for counties, numbers of high density counties increased, 1960-1970 and 1970-1980, for the entire U.S. The tabulations by census regions are noteworthy, but still support the axiom

that U.S. population is moving toward the coasts and Great Lakes of the U.S. Concerning urban proportions, the number of (66.7-99.9%) urban counties increased, 1960-1970. During that period (1980 data not available at this writing) the Pacific census region continued toward substantial urbanization.

In conclusion, inquiries in this manuscript suggest that in some states, population is moving toward counties which have energy exploration and extractive economic bases. Nevertheless, the axioms regarding trends toward urbanization and increasing numbers of high density counties, are supported for the 1960-1980 era.

Table 1

Number of U.S. Counties by Population Patterns, 1960-1980

	Population Decline	Population Increase
1960-1970	1378	1754
1970-1980	564	2599

Table 2

Number of U.S. Counties by Density Classification, 1960-1980
Persons Per Square Mile

	1-10	11-50	51-100	101-250	251-500	500+
1960	592	1502	508	270	88	148
1970	630	1426	499	297	114	168
1980	584	1311	533	358	139	185

Table 3

Number of Counties by Percent Urban, 1960-1970
Percent Urban

	No Urban	0.1-33.3 Urban	33.4-66.6 Urban	66.7-99.9 Urban	All Urban
1960	978	684	1050	379	48
1970	906	636	1120	446	54

Table 4

Number of U.S. Counties by Population Patterns
and Region, 1960-1980

Region	<u>Population Decline</u>		<u>Population Increase</u>	
	1960-70	1970-80	1960-70	1970-80
North East	8	7	57	58
Middle Atlantic	33	34	117	116
East North Central	115	47	320	390
West North Central	414	272	204	346
South Atlantic	224	45	359	544
East South Central	183	35	213	361
West South Central	233	68	237	402
Mountain	141	49	138	229
Pacific	27	7	109	153
Total	1378	564	1754	2599

Table 5

Counties in Selected States by Population Trends,
Density and Residence Data

State	<u>Population</u>		<u>Counties,</u>			<u>Counties ></u>	
	<u>Increase</u>	<u>Counties</u>	<u>Density of > 250</u>			<u>66.6% Urban</u>	
	1960-70	1970-80	1960	1970	1980	1960	1970
Arizona	13	14	-	-	-	3	2
California	53	57	9	10	13	18	25
Nevada	16	15	-	-	-	3	3
Texas	109	210	8	9	10	53	61
Connecticut	8	7	4	5	6	3	3
Illinois	51	87	9	11	9	16	17
Maryland	20	22	5	6	7	4	5
Michigan	70	75	9	13	14	12	13
New Jersey	20	17	14	15	17	14	15
New York	56	41	15	18	19	19	19
Ohio	71	79	14	17	20	16	17
Florida	61	67	7	8	13	10	18

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KENTUCKY'S POPULATION IN 1980

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Kentucky had 3,660,777 persons living in the state on April 1, 1980, according to the final population counts issued by the U.S. Bureau of the Census. The state added 440,066 inhabitants, representing an increase of 13.7 percent over the 3,220,711 inhabitants enumerated in the 1970 census. The absolute increase in the state's population during the seventies was greater than in any previous decade. It also represented the highest percentage change of any decade since the turn of the century (see Figure 1). Prior to the 1970-80 period the high rate of change between census years was 8.2 percent and 8.8 percent for 1920-30 and 1930-40, respectively. In contrast, the forties and fifties recorded low increments of 3.5 percent and 3.2 percent. The state's population growth rate of 13.7 percent between 1970 and 1980 was slightly higher than that of the nation as a whole.

If the 1980 Kentucky population were distributed evenly among the states' 120 counties each county would have approximately 30,500 persons. However, there are wide disparities in the size and characteristics of the Commonwealth's county population. Jefferson county with 685,004 persons contained the largest number of persons. It was followed by Fayette county with 204,165 persons and Kenton county with 137,058 persons. At the other extreme Robertson county had 2,265 persons. Other counties with small population size were Gallatin (4,842 persons) Menifee (5,117 persons) and Carlisle (5,487 persons).

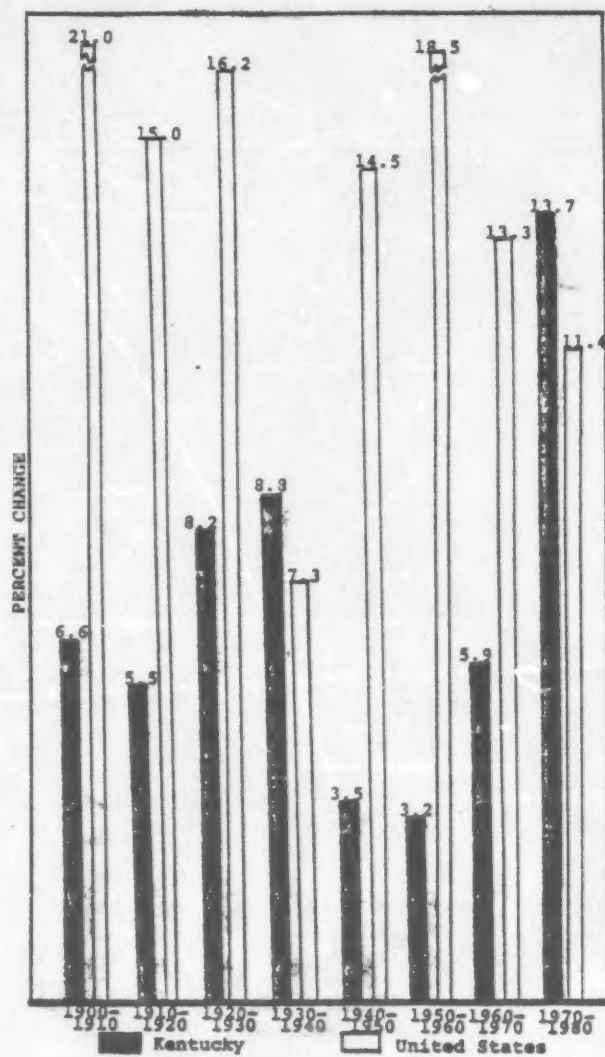


FIGURE 1: POPULATION CHANGE BETWEEN CENSUS YEARS

POPULATION GAIN

The dominant feature of Kentucky's county population in 1980 was that 116 of 120 counties in the state has an increase in their population. A total of 440,066 persons were added to the state's population during the decade of the seventies.

Kentucky's ten fastest growing counties during the seventies' are identified in Table 1. Each of these counties grew at more than twice the growth rate of the state (13.7 percent). In fact, two Kentucky counties, Oldham and Bullitt had growth rates that were four times higher than the state average.

Oldham county was Kentucky's fastest growing county. It increased from 14,687 persons to 27,795 persons-representing a gain of 13,108 persons or 89.3 percent.

Bullitt county, the states' second fastest growing county, had the greatest numerical increase of Kentucky counties. It increased by 17,256 persons or 66.1 percent.

Jessamine county grew from 17,430 persons in 1970 to 26,146 persons in 1980-an increase of 8,716 persons or 50.0 percent.

Other Kentucky counties which had rapid population growth from 1970-80 and their growth rates were: Martin county (48.5 percent), Laurel county (42.3 percent), Boone county (39.7 percent) Johnson county (39.3 percent) Whitley county (38.3 percent) Floyd county (35.9 percent) and Anderson county (34.3 percent).

POPULATION LOSS AND SLOW GROWTH COUNTIES

Only four Kentucky counties-Fulton, Campbell, Hickman and Jefferson - had population loss during the seventies.

Fulton county had 8,971 persons in 1980 - a decline of 1,212 persons or 11.9 percent.

Campbell, Hickman and Jefferson counties has population losses of 5.9 percent, 3.2 percent and 1.4 percent, respectively.

Jefferson county's population declined by 10,051 persons between 1970 and 1980 - giving it the largest numerical loss among Kentucky counties.

TABLE 1
POPULATION CHANGE IN KENTUCKY COUNTIES
BY COUNTY GROUPS, 1970-80

GROUP I: TEN FASTEST GROWING COUNTIES

	<u>Population</u>		<u>Population Change</u>	
	<u>1980</u>	<u>1970</u>	<u>Number</u>	<u>Percent</u>
Oldham	27,795	14,687	13,108	89.3
Bullitt	43,346	26,090	17,256	66.1
Jessamine	26,146	17,430	8,716	50.0
Martin	13,925	9,377	4,548	48.5
Laurel	38,982	27,386	11,596	42.3
Boone	45,842	32,812	13,030	39.7
Johnson	24,432	17,539	6,893	39.3
Whitley	33,396	24,145	9,215	38.3
Floyd	48,764	35,889	12,871	35.9
Anderson	12,567	9,358	3,209	34.3

GROUP II: TEN DECLINING/SLOW GROWTH COUNTIES

	<u>Population</u>		<u>Population Change</u>	
	<u>1980</u>	<u>1970</u>	<u>Number</u>	<u>Percent</u>
Fulton	8,971	10,183	- 1,212	-11.9
Campbell	83,317	88,501	- 5,184	- 5.9
Hickman	6,064	6,264	- 199	- 3.2
Jefferson	685,004	695,055	-10,051	- 1.4
Washington	10,764	10,728	- 36	+ 0.3
Caldwell	13,473	13,179	+ 294	+ 2.2
Carlisle	5,487	5,354	+ 133	+ 2.5
Mason	17,765	17,273	+ 492	+ 2.8
Robertson	2,265	2,163	+ 102	+ 4.7
Bourbon	19,405	18,476	+ 929	+ 5.0

Kentucky counties which were relatively stable or had slow growth during the seventies were Washington, Caldwell, Carlisle, Mason, and Robertson. Each of these counties had growth rates of less than five percent (see Table 1).

THE PATTERN OF POPULATION CHANGE

The spatial variation in Kentucky's population during the seventies reveals a dramatic change from the pattern of previous decade. Figure 2 shows the population change in Kentucky counties from 1970-80.

A significant feature of Kentucky's population change during the seventies was the widespread growth that involved almost all Kentucky counties. This was in sharp contrast with the earlier trends. In the fifties, two-thirds of the counties in the state lost population. In the sixties 61 of 120 Kentucky counties had population losses.

In 1980, seventy-two of Kentucky's 120 counties had population growth rates above the state average of 13.7 percent. These counties are shown in Figure 2 as: above average, if their change was from 13.7 percent to 21.4 percent; or as high growth, if their change was greater than 21.4 percent. Twenty-two counties with growth rates ranging from 8.6 percent to 13.6 percent were classified as below average, whereas those counties that had growth of less than 8.6 percent were categorized as low growth counties. Only four Kentucky counties experienced population loss during the last decade.

COMPONENTS OF POPULATION CHANGE

The principal factors that contribute to changes in the population of communities are birth rates, mortality and the rate of migration. Among these variables mortality is the least variable and migration the most variable.

NATURAL INCREASE/DECREASE

The role of natural population change in Kentucky's population is best understood by examining the rate of natural increase or decrease. Data on births and deaths from annual vital statistics reports were cumulated for the period 1970-1980. The difference between births and deaths was used to arrive at the size of natural increase or decrease in a given county.

POPULATION CHANGE: 1970-1980

-  HIGH GROWTH (MORE THAN 21.4%)
-  ABOVE AVERAGE (13.7% TO 21.4%)
-  BELOW AVERAGE (8.6% TO 13.6%)
-  LOW GROWTH (LESS THAN 8.6%)
-  LOSS

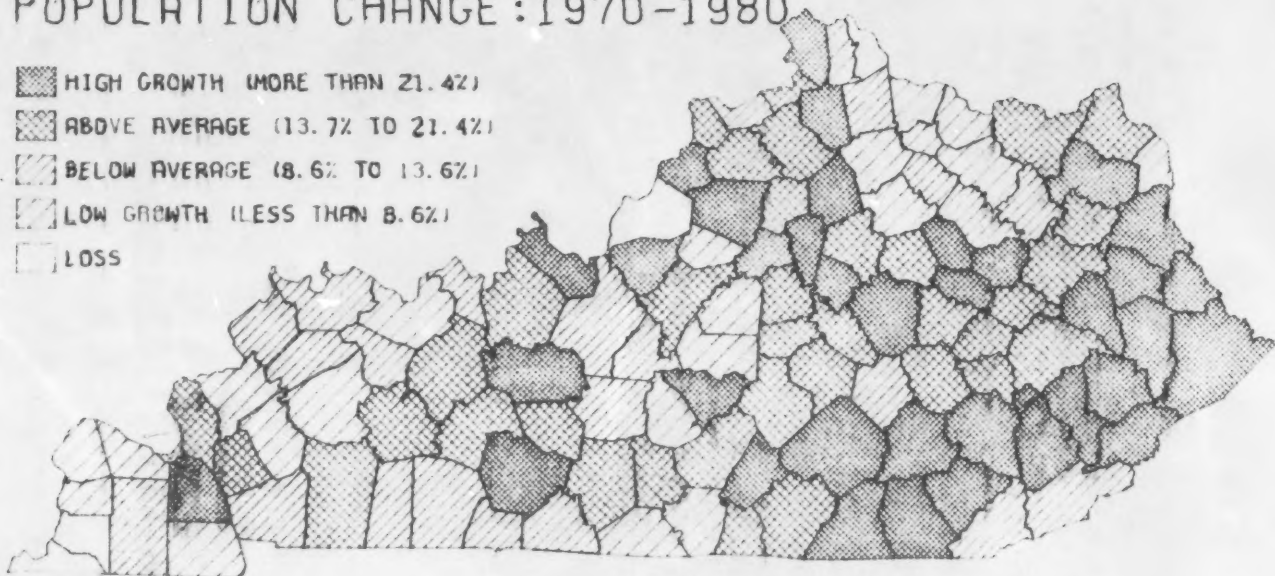


FIGURE 2.

A comparison of counties which had high population growth rates (Group I counties) versus those with low or declining population rates (Group II counties) was made earlier in this study. The same county groups were used to compare the rate of natural population change. Table 2 shows that there was considerable variation in the rate of natural increase in Kentucky counties. In general, the most rapid growth counties had higher rates of natural increase, while slow growth or declining counties tended to have population decrease or low natural increase.

MIGRATION

Migration is a major determinant of population change. To determine the impact of migration in Kentucky counties, the size of net migration was examined. Net migration rates were computed by using the residual method, i.e. the total population change which was not attributable to natural increase was accounted for by net migration. Table 2 shows the size and rate of net migration for the most rapidly growing versus declining or slow growth counties. The 1970-80 net migration rate is expressed as the number of out-migrants from a county minus the number of in-migrants per 100 persons enumerated at the beginning of the decade.

Oldham county, Kentucky's fastest growing county during the seventies, also had the highest rate of net migration. It was followed by Bullitt county, which led in the size of net migration with 13,060 persons, and had a net migration rate of 50.0 percent.

The growth of population through net migration in some Kentucky counties, such as Jessamine county, resulted from suburbanization; whereas the growth in several eastern Kentucky counties was due to the development of natural resources. Economic rejuvenation has contributed to the growth of population in many Kentucky communities.

FUTURE GROWTH

Kentucky's population should continue to grow at about the same rate as the nation as a whole. The availability of natural resources and broad based economic development throughout various regions of the state indicate a continuation of the current growth patterns. The turnaround in Kentucky's population from earlier decades is expected to continue during the eighties -

TABLE 2

NATURAL POPULATION CHANGE AND (NET MIGRATION)
IN KENTUCKY COUNTIES - BY COUNTY GROUPS, 1970-80

GROUP I: TEN FASTEST GROWING COUNTIES

	<u>Births</u>	<u>Deaths</u>	<u>Natural Increase</u>		<u>Net Migration</u>	
			<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Oldham	2,681	1,217	1,464	10.0	11,644	79.3
Bullitt	6,087	1,891	4,196	16.1	13,060	50.0
Jessamine	3,915	1,539	2,376	13.6	6,340	36.4
Martin	2,283	843	1,440	15.4	3,108	33.1
Laurel	5,558	2,851	2,707	9.9	8,889	32.4
Boone	6,980	2,551	429	1.3	12,601	38.4
Johnson	3,496	2,182	1,314	7.5	5,579	31.8
Whitley	4,690	3,259	1,431	5.9	7,820	32.4
Floyd	7,695	3,702	3,993	11.1	8,878	24.8
Anderson	1,655	1,032	623	6.7	2,586	27.6

GROUP II: TEN DECLINING/SLOW GROWTH COUNTIES

	<u>Births</u>	<u>Deaths</u>	<u>Natural Increase</u>		<u>Net Migration</u>	
			<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Fulton	1,431	1,563	- 132	-1.3	- 1,080	-10.6
Campbell	13,875	9,434	+ 4,441	+5.0	- 9,625	-10.9
Hickman	767	871	104	-1.7	- 95	-1.5
Jefferson	110,423	64,956	+45,467	+6.6	-55,518	- 8.0
Washington	1,571	1,139	+ 432	+4.0	- 396	- 3.9
Caldwell	1,984	1,852	+ 132	+1.0	+ 162	+ 1.2
Carlisle	660	728	- 68	-1.3	+ 201	+ 3.8
Mason	2,577	2,185	+ 392	+2.3	+ 100	+ 0.6
Robertson	249	305	- 56	-2.6	+ 158	+ 7.3
Bourbon	2,743	2,000	+ 743	+4.0	+ 185	+ 1.0

reflecting a net gain in population as a result of more Kentuckians staying in the state combined with the immigration of people from other states.

An evaluation of the specific demographic social and economic factors which contributed to the dynamics of population change during the last decade will be undertaken when more detailed statistics from the 1980 decennial census of population are available.

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ASSESSMENT OF PRE- AND POST- RETIREMENT ACTIVITIES OF
RESIDENTS IN JEFFERSON COUNTY

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Department of Home Economics

This study identified activities that were indicative of the needs, desires, and interests of persons 60 to 75 years old, and will enhance their satisfaction, competence, and independence during retirement years. Demographics, needs, desires, and interests identified were assessed at the preretirement stage, also the perceptions of respondents for the post-retirement years. The data generated from the post-retirement years provided the base for a sample educational program for preretirement planning which is excluded from this report.

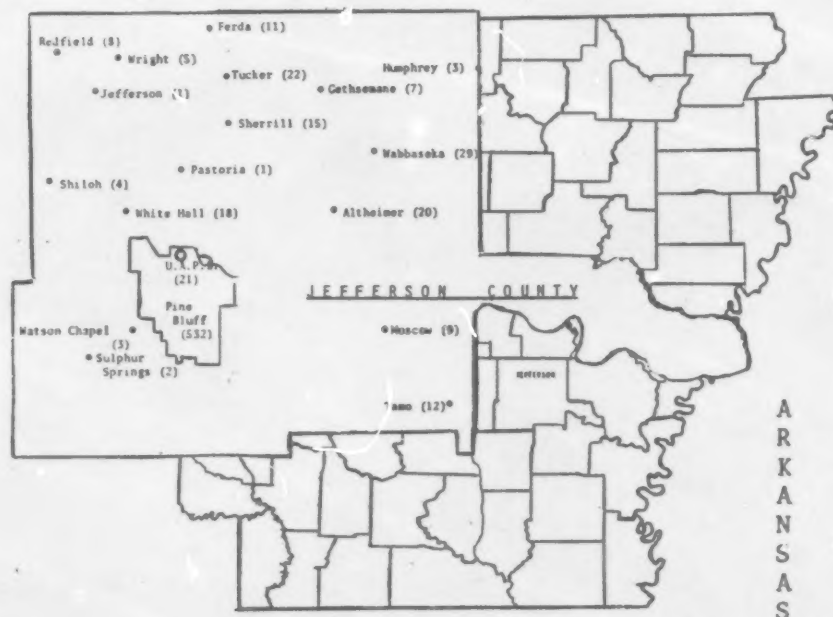
Objectives. The study attempted to: (1) identify and assess preretirement social, community, occupational or professional functions of persons, aged 60 to 75 years, and living in Jefferson County; (2) identify and assess post-retirement social, community, occupational or professional functions of persons, aged 65 to 75 years, and living in Jefferson County; (3) determine social, educational, occupational or professional preferences and interests of these retirees; and (4) develop a program for pre- and post- retired persons directed towards their projected needs, interests, goals, and preferences.

Materials and Methods.

Sample Population. The sample population consisted of 723 working persons, 60 to 75 years old (447 males, 276 females) who lived in rural and urban cities and towns in Jefferson County (Figure 1). The sample included 34.1 percent black males, 25.3 percent black females, 27.8 percent white males

and 12.8 percent white females. Jefferson County constitutes a distribution of 59.2 percent white, 40.5 percent black and 0.3 percent other (Census of Population, 1970).

Figure 1. Sample Population by Cities and Towns in Jefferson County



Instrument. The instrument was in the form of a questionnaire. Part one of the questionnaire consisted of fact questions, and was designed to obtain demographic data. Part two of the questionnaire consisted of structured questions relative to social, community, occupational or professional functions of the sample population prior to or after retirement. Part three consisted of "free response" questions relative to organizational activities, use of leisure time, values and attitudes, and activities retirees preferred to perform during post-retirement years. The questionnaire was administered to the sample population by 5 trained interviewers. Responses were coded and the Statistical Package for the Social Sciences (SPSS) was used for the statistical analyses. An alpha

level of 0.01 was used with the z test for proportions and to determine if the F ratio or z values were significant. The demographic characteristics and economics of the sample population were reported in percentages.

Results and Discussions

Age. Ages of the respondents ranged from 60 to 75 years with a median of 67.5 years. Of the total respondents, 86.6 percent whites and 60.3 percent blacks were 68 years and younger. Approximately 50.0 percent of the whites were 60 to 62 years old. The age ranges of blacks were more homogeneous.

Residence. Of the total respondents, 46.2 percent blacks and 30.6 percent whites lived in the county for fifty years and over; 7.3 percent blacks and 5.1 percent whites lived 40 to 49 years. Very few persons lived in the county under 39 years. Of the total sample 86.4 percent owned homes (49.5% blacks; 36.9% whites). Very small percentages of respondents rented houses or lived in public housing.

Education. The overall median educational level for the sample was 7.0 years. The median educational level for blacks and whites was 6.0 and 9.0 years, respectively. The median educational level for whites was higher than the overall median found for the sample. Grammar school was completed by 41.8 percent blacks and 17.1 percent whites (58.9%); 0.8 percent whites completed college; 4.5 percent blacks and 1.3% whites (5.8%) completed graduate school; and 5.8 percent blacks and 3.9 percent whites (9.7%) pursued post-graduate education. It may be noted that more blacks than whites had education above college level. This may be accounted for by Jefferson County's predominately black college where some data were collected on instructors and professors, aged 60 years and over.

Marital Status. The 723 respondents consisted of 30.0 percent blacks and 31.1 percent whites married; 17.8 percent and 7.1 percent blacks and whites, respectively widowed. Very small percentages of the respondents were single, separated, and divorced.

Income. Social Security Administration was the primary source of income for 43.6 percent blacks and 22.8 percent whites (Table 1), although all individuals worked. Savings, pensions and investments accounted for approximately 11.0% of income to blacks as compared to 13.5% for whites.

Table 1. Income of Respondents by Percent and Race*

Income Sources	RACE		Total Percent
	Black Percent	White Percent	
Employment	59.3	40.7	100.0
Social Security	43.6	22.8	66.4
Savings	3.7	4.0	7.7
Pensions	4.7	5.5	10.2
Relatives' assistance	1.8	0.6	2.4
Investments	2.6	4.0	6.6
Insurance payments	0.7	0.4	1.1
Public assistance	2.1	1.0	3.1
Veteran's benefits	1.7	1.9	3.6
Other	2.6	1.0	3.6

*Multiple Response

The frequency of pensions as a source of income was equated with the percentage of persons with professional backgrounds.

Assessment of Retirement Activities. This section provides an analytical schema of respondents' responses to the following:

Present Occupation. Occupational types according to the frequency with which they were mentioned are reported in Table 2. Using the z test for

proportions at the 0.01 level of confidence, the proportion of blacks engaged in nonprofessional occupations was greater than that of whites.

A greater proportion of whites than blacks was engaged in professional occupations. It may be noted that this study showed that blacks acquired more professional education than whites. But, present occupation of respondents showed more whites than blacks engaged in professional, technical pursuits and were proprietors of businesses.

Table 2. Present Occupations of Respondents by Percent and Race

Occupations	RACE		Black and White Total Percent
	Black Percent	White Percent	
Farming	22.5*	7.9	30.4
Professional	1.2	5.7*	6.9
Administrative	1.7	1.5	3.2
Technical	0.5	6.2*	6.7
Clerical	0.7	2.7	3.4
Janitorial	15.5*	2.1	17.6
Business (Self)	0.2	6.2	6.4
Business (Corp.)	4.9	6.9	11.8
Other	12.3*	1.3	13.6

*Significant = $P < 0.01$.

black 429

white 294

Work Status. Each respondent was asked if he worked full or part-time, and the number of years he was working. Of the respondents, 24.0 percent reported full-time employment. The remaining population reported part-time employment. Respondents worked from less than one year to 40 years and over. Black respondents had a greater number of work years than white respondents. Of the black population, 52.2 percent males and 32.7 percent females worked 36 to 40 years and over. Of the white population, 24.8 percent and 31.1 percent white males and females, respectively, worked 1 to 5 years in the county. It seemed that more black than white respondents, especially black males, resided longer years in the county.

Expected Annual Income Retirement Benefits. The annual income retirement benefits of respondents ranged from \$1,000 to \$50,000. An average annual

income for the sample was approximately \$5,000. Only 2.3 percent blacks and 5.8 percent whites reported an annual income greater than \$11,000. Nearly 49.0 percent black and 18.4 percent white respondents reported an annual income below \$3,000; 24.6 percent and 28.8 percent black and white respondents', respectively annual income retirement benefits were less than \$5,000; 11.6 percent black and 20.4 percent white respondents, respectively stated annual retirement benefits between \$5,000 and \$7,000. Percentages for other categories were small and were smaller for blacks than whites. It was significant ($P < 0.01$) that a greater proportion of blacks expected to receive \$1,000 to \$3,000 as retirement benefits. Depending on the number in the household, it would appear that these persons would have a restricted salary if they did not have a supplement.

Major Interests. Respondents were asked to report major interests from 5 to 10 years to the present time. Gardening was significant ($P < 0.01$) for black (54.7% males; 40.0% females) than white respondents (22.5% male; 23.0% females). Both black and white respondents mentioned hobbies (carpentry, arts and crafts, reading, sewing, fishing, hunting, other) as a major second interest. A greater percentage of hobbies were mentioned by both black and white females than the males. Other major interests such as cards, table tennis, and checkers were less popular, followed by movies and clubs.

Perceived Retirement Age. When respondents were asked "at what age they would retire, if retirement age was not limited by law," 45.3 percent of the blacks and 23.1 percent of the whites stated age 75. Age 66 was stated by 24.5 percent blacks and 25.5 percent whites; 7.9 percent blacks and 20.5 percent whites stated age 70. It was significant ($P < 0.01$) that more black than white respondents desired to retire at age 75. Age 85 was the desired retiring age of 10.5 percent white and 5.1 percent black

respondents. Percentages were very small for other desired retirement age.

Type of Retirement. Respondents were asked what type of retirement they expected or hoped to experience at age 65. Forced retirement was most frequent for blacks (24.8%) and voluntary retirement (26.5%), for whites. Only a paucity of total respondents supported "poor health," and "because of age 65," as reasons for retiring.

Self-Rating. Respondents were asked to rate themselves as to their feelings toward their present and future capabilities or normal functioning. Of the respondents (Table 3) 90.4 percent blacks and 91.4 percent whites were normally functioning. More foresight regarding capabilities were

Table 3. Self-Rating of Capabilities by Percent and Race*

Capabilities	RACE	
	Black Percent	White Percent
Normal functioning	90.4	91.1
20 to 40 years experience	24.0	19.4
Have to be retrained	15.8	7.1
Will seek retraining	15.8	8.5
Not have to be retrained	26.8	20.1
Capable to train others	44.5	21.1
Will continue working	43.6	30.9
*Multiple responses	black 429	white 294

evidenced among blacks than whites. A greater percentage of blacks than whites reported that they would continue to work, would not need to be retrained and was capable of training others. The findings concur with other data in the study which showed nearly all respondents healthy. Also, black respondents' incomes were less adequate than for whites, which the authors assume would be reason for more blacks wanting to work.

Post-Retirement. Post-retirement assessment determined the following:

Social Security. Respondents were asked if they received a check from the

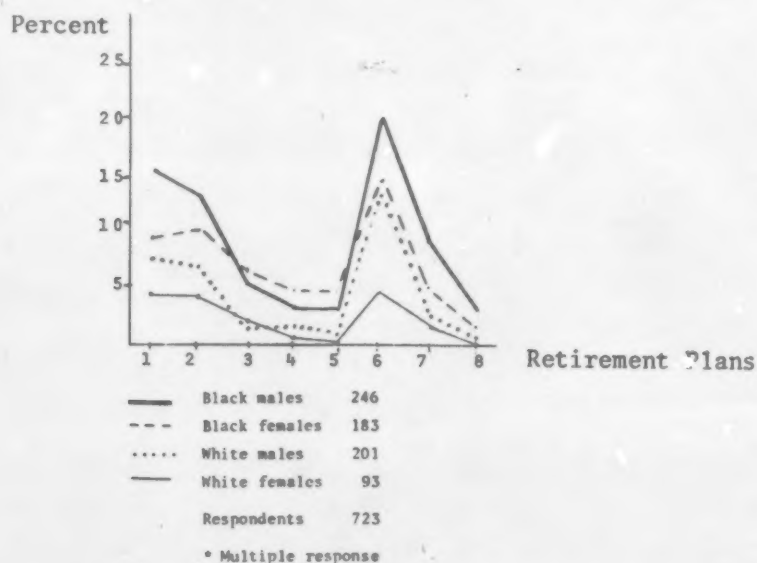
Social Security Administration. It was significant ($P < 0.01$) that black respondents (24.1% males; 19.5% females) were the greater recipients of these payments (13.4% white male; 8.6% white female).

Retirement Plans. Respondents were asked if they made retirement plans and if not, why? The assessment indicated that there was little retirement planning. Of the total respondents, 63.0 percent had no plans for retirement. Reasons for not having planned for retirement showed 9.8 percent with no family; 41.6 percent with inadequate income; 8.7 percent with poor health or disabled; 5.7 percent other, and 33.9 percent gave no response to this question. It would seem that planning for retirement was neglected by a large proportion of this age-group. The authors assumed that the absence of retirement plans may be the outcome of inadequate income and forced retirement. The majority of those who had retirement plans may be those who volunteered to retire; therefore they were prepared financially and emotionally for that aspect of retirement.

Perceived Retirement Plans. Each respondent was asked if he planned at retirement to: (1) work at his same job, (2) live on savings, beneficiaries, annuities, (3) be retrained to pursue a second career, (4) travel to other countries, (5) obtain other full time employment, (6) obtain other part-time employment, (7) farm for himself and (8) farm for someone else. Figure 2 shows the responses of the respondents by percentages, race, and sex. Analyses indicated that 19.6 percent and 14.2 percent black males and females, respectively, and 13.1 percent and 4.3 percent white males and females, respectively, planned to obtain part-time work; and 13.7 percent and 10.1 percent black males and females, respectively, and 7.0 percent and 4.7 percent white males and females, respectively, planned to live on savings, beneficiaries, and annuities. A total of 11.3 percent of the respondents planned to work full time. There was a greater

percentage of blacks than whites who planned to continue work. These responses showed this age group planned to continue work. These responses would seem to counteract stereotypes about the ability of older persons to contribute to society (Harris, Locus and Associates, 1975). Again, inadequate income and forced retirement could be reasons for the planned activities.

Figure 2. Perceived Plans of Respondents by Percent, Race and Sex*

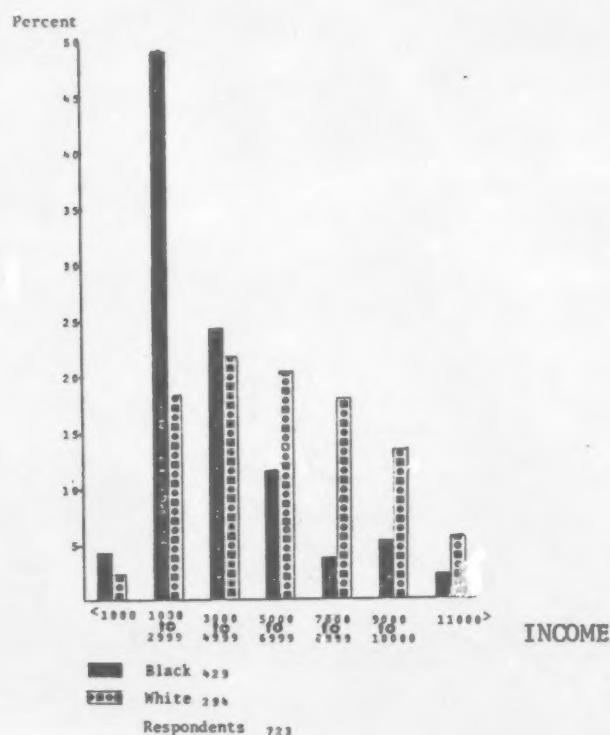


Self-Perceptions of Respondents. Respondents were asked if they felt they (a) were able to help people; (b) were capable to pursue a second career; (c) and if retirement at 65 would reduce activities. Among the group, 51.9 percent and 38.8 percent black males and females, respectively and 53.7 percent and 23.5 percent white males and females, respectively considered helping people to be most important; while, 21.4 percent and 18.6 percent black males and females, respectively, and 25.5 percent and 9.5 percent white males and females respectively stated that they were capable of pursuing a second career. A large proportion of total respondents (68.7% black; 60.8% white) indicated that activities would not be

reduced at age 65. Respondents exhibited a positive attitude toward attainments and activities during retirement years.

Present Annual Income. As presented in Figure 3 the majority of black respondents received between \$1,000 to \$2,999 annual income prior to retirement. Only 18.3 percent of white respondents were indicated in the above annual income range. In the \$3,000 to \$4,999 annual income range,

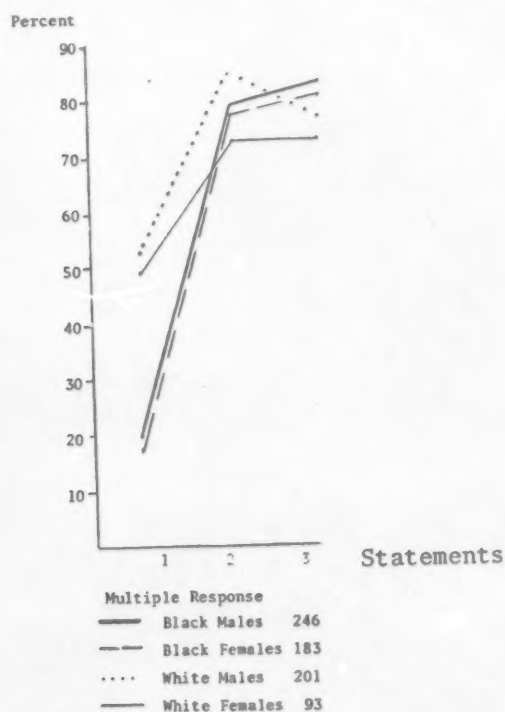
Figure 3. Current Annual Income of Respondents by Percent and Race



24.0 percent blacks and 21.8 percent whites were indicated. As can be observed, it was significant ($P < 0.01$) that the black respondents had meager incomes. Annual incomes of the white respondents were spread nearly equally over all income ranges. These annual income ranges prior to retirement, support the respondents' perceived retirement payments. Also, it may be predictive of respondents' wishes to continue working after age 65.

Attitudes of Respondents Toward Retirement. Respondents were asked if they were (1) financially able to retire, (2) emotionally suited for retirement, and (3) physically fit for retirement. Figure 4 shows 54.7 percent and 49.4 percent white males and females, respectively financially able to retire. Only 20.3 percent and 18.0 percent black males and females, respectively were financially able to retire. Of the black respon-

Figure 4. Attitudes of Respondents Toward Retirement



dents, 83.7 percent and 80.9 percent males and females, respectively and 73.6 percent and 77.4 percent white males and females, respectively, perceived themselves to be physically fit to retire. Attitudes of respondents toward being emotionally suited for retirement showed a positive response from 83.7 percent and 80.9 percent black males and females, respectively.

It was recognized that there was a significant difference ($P < 0.01$) in the black respondents' financial ability to retire.

Conclusion. The results demonstrate that certain unmet or unknown needs and desires for the future years of preretired persons can be identified, evaluated, and discussed with regard to the type of help they need for future living and dignity.

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The Effects of Two Generations of Status Attainment on
Educational Aspirations for Offsprings*

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INTRODUCTION

The paper is a preliminary endeavor to determine the process by which educational goals are transmitted intergenerationally. More specifically, the focus here is the extent to which sex, race, and social origin variables, as well as early and mid-cycle family or procreation status attainments, impact on the educational desires parents have for their offsprings.¹ This process is important because Howell and Frese (1982a), for example, found that maternal educational expectations for a child are powerful determinants of a child's own aspirations. They (1982b) also found that if a mother had higher educational expectations for her child, the child was less likely to drop out of high school. Expanding this line of inquiry, we focus on educational aspiration and expectation differences parents have for their sons and daughters.²

Although there is some evidence linking parental educational and occupational attainments to expressed educational goals for offsprings, such research relies primarily on a) data provided by the respondent regarding his/her parents, b) parental characteristics which were collected at only one point in time or c) information collected from mothers only (Hout and Morgan, 1975; Howell and Frese, 1982a and b). The present analysis differs in that this multiwave panel design (including both male and female respondents) allows us to assess the temporal effects of social origins, young adult attainments, and mid-adult attainments on the educational goals our respondents have for their children. The model presented in Figure 1 conceptualizes the process of two generations of attainment on educational goals for offsprings.

Gender and race affect status attainment, in that, being female or black has a depressing impact on status attainments (e.g. Alexander and Eckland, 1974; DeBord, et al., 1977; Duncan, 1967; Jencks, et al., 1973; Kerckhoff and Campbell, 1977; Porter, 1974; Portes and Wilson, 1976; Sewell, et al., 1969; Sewell and Shah, 1967 and 1968; Treiman and Terrell, 1975. A substantial body of research exists on the effects of

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social origins on early status attainment. Father's education is positively associated with educational attainment (Howell and Frese, 1982b; Picou and Howard, 1978; Sewell and Shah, 1968) and occupational attainment (McClendon, 1976). Mother's educational level is also positively linked to early educational and occupational attainment (Sewell and Hauser, 1975). For rural youth, Picou and Howard (1978) found that father's and mother's education were the most important predictors of their adult educational attainment.

Breadwinner's occupation is another social origin variable positively linked with early educational (Howell and Frese, 1982b) and occupational attainment (Sewell and Hauser, 1975). In sum, parental socioeconomic status is positively related to early educational and occupational attainments (Burchinal, 1965; Duncan, 1966; Duncan, et al., 1972). In addition, research documents the importance of early adult attainments on subsequent achievements (Duncan, 1966; Hauser and Featherman, 1977).

Research on early marriage and early child-bearing indicates an inverse relationship with parental socioeconomic status (Bartz and Nye, 1970; Burchinal, 1960; Otto, 1979), although some evidence shows that the overall relationship is small (Howell and Frese, 1982a and b; Otto, 1979; Moss and Gingle, 1959). Factors contributing to early marriage and early fertility include sex -being female- and race -being non-white (Carter and Glick, 1976; Elder and Rockwell, 1976; Howell and Frese, 1982a; Sweet, 1977). The effects of marital timing and early child-bearing have been the subject of much research (Sweet, 1977; Otto, 1977), some indicating that they have negative consequences for adult educational (Nye and Berardo, 1973; but also see Alexander and Reilly, 1981; and Howell and Frese, 1982a and b; Marini, 1978) and occupational (Call and Otto, 1977) attainments. Conversely, staying in school contributes to later marriage and delayed child-bearing (Rindfuss, et al., 1980).

Although not receiving as much attention, residence of origin also appears to influence early educational and occupational attainments (Blau and Duncan, 1967; however, see Sewell, et al., 1970 and Frese, et al., 1979). Howell and Frese (1982c) found that family-of-origin residence structured, not only the initial move away from home, but also fostered the socialization of residential preferences. While residential preferences (be they rural or urban) for many respondents did change from adolescence to adulthood, they found that adulthood residence strongly brings residential preferences into line with actual location. Residential location has also been linked with early marriage (Duncan, 1934), however, such rural-urban differences appear to be diminishing (DeLissovoy and Hitchcock, 1965; Eshleman, 1974).

METHODS

The data used in this paper were collected in 1966 when the respondents were sophomores in high school, in 1972 when they were four years out of high school and again in 1979 when they were about 29

years old.³ The 964 panel members included in this paper originally attended schools in Alabama, Georgia, Louisiana, Mississippi, South Carolina and Texas. This final "representative" sample of nonmetropolitan southern youth consists of 366 white males, 258 white females, 159 non-white males and 181 non-white females.⁴ For additional details of the Southern Youth Study and the sampling procedures see Thomas, 1978; Howell, Ohlendorf and McBroom, 1981; and Picou, Thomas, and Cosby, forthcoming. Unless otherwise specified, missing data for the variables included in this paper were handled using pairwise deletion for the correlations and regressions estimates (see Kim and Curry, 1977). Sex (SEX) and race (RACE) of the respondent are coded so that females and non-whites are 0, and males and white are 1. Father's education (FED) and Mother's education (MED), as well as the 1972 (ERLYEDAT) and 1979 (EDAT79) educational attainments of each respondent are coded in years of schooling completed. The family breadwinner's occupation (BOCC) when the respondent was in high school, and the respondent's occupation(s) in 1972 (ERLYOCAT) and in 1979 (OCAT79) are coded into the SEI metric. Housewives were given a score of 51 (see Dworkin, 1981), while those respondents still in school in 1972 had their 1972 SEI estimated using their 1979 occupation. The respondent's type of residence in 1966 (RESID), 1972 (ERLYRESAT), and 1979 (RESAT79) are coded so that a high score indicates a more rural residence while a low score indicates a more urban residence. Marital status (ERLYMARR) in 1972 is coded as a dichotomous variable with a 1 indicating that the respondent has ever been married and a 0 otherwise. The number of years a respondent has been married in 1979 (YMARR) ranges from 0 to 13. Fertility in 1972 (ERLYFRT) and in 1979 (FRT79) are measured by the number of children the respondent reported having at the time the interviews were conducted. The educational aspirations the respondents have for their daughters (DAUEDASP) and sons (SONEDASP) are coded in years of schooling, based on the answer the respondents gave to the question: "Although the decision will be their's, how much education do you want your children to have?" Educational expectations for a panel member's daughters (DAUEDEXP) and sons (SONEDEXP) were obtained by asking: "How much education do you really expect your children to get?" Both the aspiration and expectation measures are coded in years of education.

FINDINGS

Summary statistics and correlations for the variables used in this paper are presented in Table 1. Mean educational aspirations for both sons and daughters were for seventeen years of schooling or one year beyond a bachelors degree. Actual expectations were for 16 years of schooling or a college degree for both sons and daughters. The standard deviations for both aspirations and expectations are just over two years of schooling. The zero-order correlation between educational aspirations for sons and daughters is .875, while the correlation between their educational expectations is .887. Thus these parents show virtually no sex bias in the educational aspirations and expectations that they have for their children.

The regression estimates for Figure 1 are presented in Table 2.

Sex, race, and family of origin variables explain only a small amount of variance (from 3.4 to 21.2 percent) in each of the early attainment variables (Table 2 - rows 1 through 5). When the early attainment variables (rows 6 through 10) are in the equations predicting mid-adult attainments, the explained variance ranges from 25 to 50 percent. For each of these five equations the best predictor is, not surprisingly (Duncan, 1966; Hauser and Featherman, 1977), the early attainment level of the variable being predicted.

Focusing on the education variables (Table 2 - rows 1 through 6) shows that only the father's education had a statistically significant (positive) impact on the respondent's own early (1972) educational attainment. In the 1979 education attainment equation, however, a number of variables make a statistically significant contribution toward explaining the variation in EDAT79. While early educational attainment makes the largest contribution toward explaining EDAT79, early occupational attainment has about half the impact. Being a male, having a mother with more education, not marrying early, and not having had children in 1972 also helped increase a respondents' chance for more education (Nye and Berardo, 1973; Sewell and Hauser, 1975).

The four questions of most interest for this paper (rows 11 through 14), explain from 15 percent to 25 percent of the variation in the educational aspirations and expectations attainment in 1979 had the greatest impact on the aspirations and expectations he/she had for his/her children. That is, the more education a respondent had the more he (she) wants for his (her) children. The next largest impact of all four equations is made by a respondent's race, namely, non-whites have higher aspirations for their children than do whites. The only other variable having a statistically significant impact on all four offspring educational desire equations is the location of the respondent's residence in 1979. The more rural the location, the lower the educational aspirations and expectations the respondent had for his/her children.

While having children early (ERLYFRT) had a significant depressing influence ($\beta = -.122$) on the educational aspirations for daughters, this impact is smaller (from $-.081$ to $-.087$) and not statistically significant for the other three offspring equations. The educational expectations for the respondent's sons also indicate statistically significant impacts from the respondent's occupational attainment in 1979 and from the number of children in the family (FRT79). While having a high status job tends to increase ($\beta = .147$) the expectations a respondent has for his/her sons, having a larger family tends to lower ($\beta = -.092$) such expectations somewhat. It is interesting to note that neither the respondent's job in 1979 nor family size in 1979 had a significant effect in the more "idealistic" aspiration equations. The lack of a significant depressing effect from family size (FRT79) on the educational expectations for daughters may be due in part to the respondents expecting some upward mobility via marriage for their daughters but not their sons.

NOTES

1 Later research will incorporate the status aspirations parents had for themselves as well as comparing race-sex subgroup differences.

2 While the data Howell and Frese used were obtained by asking mothers about specific children, our educational aspiration and expectation measures are more global in that they asked about the respondents son(s) and daughter(s) and not a specific child.

3 Data were collected in 1968, however, Mississippi did not collect data that year. Also, Louisiana did not join the project until 1968 so when possible the 1966 data for those respondents (e.g., race, sex, breadwinner's occupation, etc.) were maintained from information collected in the 1968 interviews.

4 All except 10 of the 340 non-white respondents (97%) are black.

5 Means and standard deviation for race-sex subgroups are:

	DAUEDASP		SONEDASP		DAUEDEXP		SONEDEXP	
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD
White males	16.96	2.22	17.14	2.20	16.13	2.37	16.23	2.44
White females	16.93	2.27	17.21	2.32	15.79	2.36	15.74	2.32
Non-white males	17.80	2.07	17.76	2.22	16.43	2.44	16.37	2.52
Non-white females	17.48	2.33	17.56	2.43	16.32	2.64	15.96	2.64

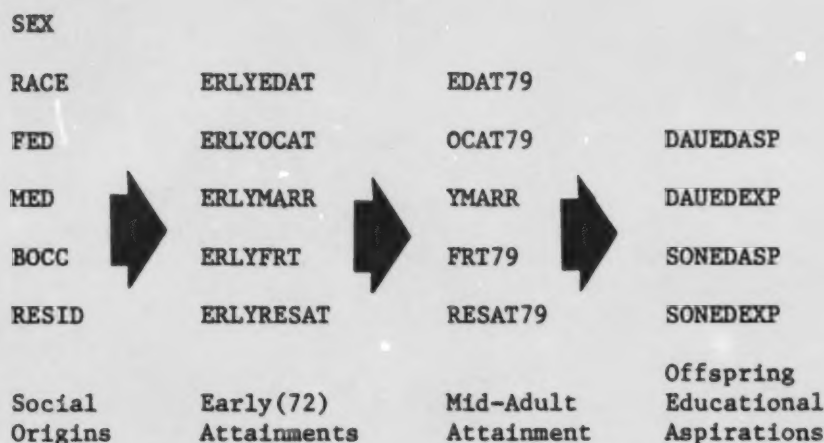


Figure 1. Conceptual Model Specifying The Effects of Intergenerational Status Attainments on Educational Aspirations for Offsprings.

Legend:

SEX	= Sex	ERLYRESAT	= Early Place of Residence
RACE	= Race	EDAT79	= Adult Educational Attainment
FED	= Father's Education	OCAT79	= Adult Occupational Attainment
MED	= Mother's Education	YMARR	= Adult Marital Status
BOCC	= Breadwinner's Occupation	FRT79	= Adult Fertility
RESID	= Residence of Origin	RESAT79	= Adult Place of Residence
ERLYEDAT	= Early Educational Attainment	DAUEDASP	= Aspirations for Daughter's Ed.
ERLYOCAT	= Early Occupational Attainment	DAUEDEXP	= Expectations for Daughter's Ed.
ERLYMARR	= Early Marital Status	SONEDASP	= Aspirations for Son's Education
ERLYFRT	= Early Fertility	SONEDEXP	= Expectations for Son's Education

Table 1. Correlations, Means, and Standard Deviations.^a

	SEX	RACE	ED	MED	BOCC	RESID	ERLYEDAT	ERLYOCAT	ERLYMARR	ERLYFRT	ERLYRESAT	EDAT79	OCAT79	YMARR	FRT79	RESAT79	DAUEDASP	DAUEDEXP	SONEDASP	SONEDEXP
SEX	-	.114	-.010	.091	.018	.080	.010	-.267	-.163	-.159	.078	.130	-.073	-.130	-.112	.012	.015	.043	-.005	.089
RACE		-	.281	.213	.347	-.066	.121	.245	.181	-.032	.166	.182	.256	.213	-.205	.165	-.136	-.073	-.093	-.025
FED			-	.536	.476	-.268	.223	.319	-.053	-.056	-.054	.339	.375	-.036	-.161	-.142	.081	.135	.139	.215
MED				-	.364	-.191	.161	.187	-.061	-.097	-.040	.309	.295	-.049	-.178	-.072	.037	.160	.059	.217
BOCC					-	-.294	.096	.218	.027	-.030	-.050	.232	.275	-.030	-.155	-.051	.065	.112	.115	.167
RESID						-	-.071	-.125	.079	.039	.269	-.155	-.212	.127	.107	.248	-.084	-.103	-.118	-.128
ERLYEDAT							-	.322	-.068	-.223	-.125	.568	.369	-.054	-.199	-.131	.121	.156	.185	.240
ERLYOCAT								-	.006	-.013	-.054	.389	.644	.032	-.095	-.119	.109	.143	.172	.182
ERLYMARR									-	.478	-.042	-.230	-.085	.645	.397	.131	-.111	-.100	-.102	-.171
ERLYFRT										-	.016	-.283	-.149	.389	.494	.121	-.171	-.164	-.154	-.230
ERLYRESAT											-	-.107	-.119	.025	-.010	.424	-.068	-.096	-.150	-.129
EDAT79												-	.500	-.173	.333	.202	.269	.340	.305	.408
OCAT79													-	.053	-.184	-.197	.121	.219	.201	.313
YMARR														-	.441	.175	-.142	-.101	-.119	-.142
FRT79															-	.125	-.122	-.158	-.123	-.232
RESAT79																-	-.224	-.222	-.248	-.249
DAUEDASP																	-	.642	.875	.571
DAUEDEXP																		-	.588	.887
SONEDASP																			-	.607
SONEDEXP																				-
MEAN	.54	.65	9.77	10.61	30.40	2.62	12.79	40.70	.52	.42	2.23	13.80	45.11	5.76	1.42	1.80	17.19	16.13	17.34	16.08
SD	.50	.48	3.76	3.13	22.32	1.14	1.43	22.08	.50	.71	.86	1.91	22.79	4.00	1.23	.98	2.25	2.44	2.29	2.47

^aLeading decimal points for the correlations have been omitted.

Table 2. Standardized Regression Estimates for the Effects of Intergenerational Status Attainments on Educational Aspirations for Offsprings.

Dependent Variable	Independent Variable																R ²
	SEX	RACE	FED	MED	BOCC	RESID	ERLYEDAT	ERLYOCAT	ERLYMARR	ERLYFRT	ERLYRESAT	EDAT79	OCAT79	YMARR	FRT79	RESAT79	
ERLYEDAT	.000	.070	.188*	.058	-.044	-.017											.057
ERLYOCAT	-.290*	.176*	.222*	.038	.033	-.013											.212
ERLYMARR	-.195*	.231*	-.092*	-.038	.033	.088*											.089
ERLYFRT	-.156*	.002	-.017	-.073	.018	.038											.034
ERLYRESAT	.036	.197*	-.017	-.016	-.028	.264*											.110
EDAT79	.145*	.028	.065	.102*	.033	-.028	.418*	.229*	-.137*	-.080*	-.045						.480
OCAT79	.050	.063*	.069*	.082*	.035	-.068*	.123*	.563*	-.039	-.070*	-.062*						.504
YMARR	-.041	.148*	.011	.004	-.078*	.072*	.002	.004	.552*	.120*	.003						.451
FRT79	.016	-.211*	.003	-.055*	-.048	.027	-.066*	.008	.268*	.340*	.010						.348
RESAT79	-.053	.159*	-.110*	.023	.018	.125*	-.026	-.101*	.061	.067	.357*						.252
DAUEDASP	.012	-.210*	.020	-.054	.064	-.023	-.059	.069	.090	-.122*	.065	.271*	-.034	-.029	-.021	-.150*	.150
DAUEDEXP	.026	-.193*	-.016	.058	.058	-.013	-.071	.017	.069	-.081	.031	.299*	.069	.036	-.063	-.126*	.176
SONEDASP	.008	-.177*	.050	-.076	.084	-.016	-.008	.077	.054	-.087	-.022	.285*	.021	-.030	-.020	-.133*	.166
SONEDEXP	.062	-.170*	.028	.057	.074	.001	-.006	-.011	-.000	-.086	-.006	.252*	.147*	.054	-.092*	-.117*	.249

*p < .05

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Completing College and the Quality of Employment: A Look at the Costs of Dropping Out

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INTRODUCTION

This study investigates the relationship between level of educational attainment and subsequent aspects of occupations relating to job quality. Traditionally, classifications of occupations and the number of dollars earned have been used to evaluate the desirability or quality of an employment situation. As job attributes, these two factors are important indicators of returns to education which contribute to job quality and hence to job satisfaction. However, other factors also contribute to job quality and satisfaction in addition to earnings within job classifications. Not all of these factors which contribute to job quality have been fully enumerated or explored.

In combination with the frequently used measures of income and income by occupational classification, this study incorporates the additional dimensions of occupational status ranking (categories such as professional or laborer), degree of responsibility, and work autonomy as indicators of job quality. It is generally believed that income is positively affected by level of educational attainment (Weiss and Williamson, 1972, 1975; Welch, 1973; Wolff, 1977). This analysis will explore the hypothesis that educational attainment has a similar positive effect on occupational status ranking, degree of responsibility, and work autonomy.

The research problem has two facets. First, the concern is for whether there is a consistent relationship between level of educational attainment and a variety of job quality indicators. Second there is a further concern for variations in this relationship when controlling for race and sex. For instance, should the black-white differences in the percent of those obtaining better positions on job quality indicators more strongly favor whites at the lower levels of educational attainment and less at higher levels, then the costs of dropping out of the educational system are even more severe for blacks. It is hypothesized that the level of educational attainment is positively related to job quality indicators for each race and sex group. However, it is also expected that men will fare better than women and whites better than blacks.

Even so, the ramifications of these race and sex relationships remain complex. The exact nature of black-white and male-female differences in returns to educational attainment are even more critical perhaps than the general trends of race and sex differences. In this

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we refer to the specific race-sex linked differences associated with each level of educational attainment. Patterns of race-sex linked differences are indicative of the cost in adulthood of dropping out of the educational process at key points.

REVIEW OF LITERATURE

Past research dealing with the relationship between educational and occupational attainments has yielded contradictory conclusions. In many cases these contradictions occur when population characteristics not considered in one study are taken into account in another.

Most early studies on this topic measured the importance of additional years of education in terms of differential earnings. Becker (1964) demonstrated a systematic positive relationship between schooling and earnings. Similarly, a study by Hansen (1963), based on 1949 data indicated that the nature of secondary and higher education is such that the final year of a schooling package is more critical to achieving a higher rate of return than is an intermediate amount. In other words, completion of a program is crucial.

Hirsch and Segelhorst (1965) used sample survey data collected in 1957 for the St. Louis city-county area to show that income was more highly correlated with education than was the sex of the household head, followed in decreasing order by occupation, self-employment, supervisory status, and race. They also found a consistent positive effect on income of an additional year of both primary and secondary education, with each additional year of secondary education having at least twice the positive effect on income that primary education had. However, they noted that education is a difficult variable to measure from the perspective of comparability. Once differences in quality of education have been allowed for, a given number of years of schooling may still not be comparable between communities because of differences in the ordering of the curriculum. Courses taught in the seventh grade at one school may not be available until the eighth grade at another school. However, comparability tends to increase with the number of years of schooling completed.

Several studies have been conducted using 1960 census data. Although these stretch over several years, it is perhaps more advantageous to present them together. Siegel (1965) contrasted 1950 and 1960 census data and found that nonwhites in 1960 were experiencing slightly less occupational segregation at almost every educational level than was true in the 1950's. Using 1960 data he showed that there was a general tendency for income to increase with education. However, income increased more rapidly in professional, managerial, sales and craft occupations than among other major occupational categories. White-nonwhite differentials also increased with higher levels of education. Siegel referred to this as the disadvantageous aspect of education for nonwhites. Each of these white-nonwhite earnings differentials at most occupational and educational levels were found to be larger in the South. In closing, Siegel stated that the annual earnings cost of being a Negro in 1960 was valued at roughly a thousand dollars.

Also using 1960 census data, Hanoch (1965) and Thurow (1969) found returns to education among blacks to be erratic and much lower than for whites, even when region of birth is corrected for (R. Weiss, 1970). Welch (1967) observed that returns to education for whites were high, yet returns to blacks were so low that relative to whites, black income actually fell as their level of educational attainment rose. He further stated that for southern rural blacks schooling was a poor investment.

The combined results of these studies helped generate what has been called the "pattern of discrimination" theory (Gwartney, 1972). This theory leads to the contention that even highly qualified blacks are relegated to low skill, menial jobs because white resistance to the employment of blacks is strongest at the higher echelons of the employment hierarchy. Gwartney maintained that unless employment discrimination is reduced, blacks have neither the incentive nor the potential for improving their educational qualifications and socioeconomic position in society.

L. Weiss and Williamson (1972), disturbed by the earlier findings based on 1960 Census data which indicated bleak prospects for the elimination of black poverty, proposed that the weak effect of education on black income was due to the alleged low quality of black schooling provided in parts of the South, rather than entirely due to discrimination in the labor market. Making use of the 1967 Survey of Economic Opportunity (SEO) they revealed that education has a strong and consistent effect on black incomes for the population as a whole, and for each age group in the interaction equation. However, they also found that the relative gain from education was largest in the North and least in the rural South.

Link (1975) attempted to determine whether the results obtained by L. Weiss and Williamson represented a long term trend. To test this he compared 1960 and 1970 Census data. The big relative gains to blacks occurred among those with 9-12 years of education. But even here the absolute gains for blacks between 1960 and 1970 were modest. Link concluded that although the position of blacks had improved, gains were not as large as earlier data indicated.

In a later study, L. Weiss and Williamson (1975) defended their earlier findings and credited the dramatic discrepancies observed by Link to be inherent in the form of the published Census data, the broad groupings chosen for categories, and the sample definitions. Using individual data from the 1970 public use tapes, they showed that the effect of education on earnings is similar for both blacks and whites, a finding which upheld their previous assertions. They concluded that the use of grouped data for this sort of analysis is very chancy and that individual data should be used whenever possible. Also, they indicated that earlier studies using 1960 Census data had similar flaws and that it seemed likely that the low apparent return to black education found in those studies was a statistical artifact.

Welch (1973) too found reason to question earlier findings, his own included, that used the 1960 Census data. He contended that researchers at that time erred by not considering the full implications of secular changes in schooling quality. Previous estimates had been based on data taken at a time when the majority of the adult black

population would have been in school during the 1920's and 1930's. At that time southern schools were segregated, blacks attended school only about two-thirds as many days as whites, and a bit more than three times as many dollars were spent on education for white students than were spent for black students. Given this situation it was hardly surprising that education did not have the positive effect on black income that it had on white income. Since that time substantial improvements have come about in the quality of education for blacks.

In this later publication Welch (1973) used the 1967 SEO data also used by L. Weiss and Williamson (1972). He too found that the more recently educated population had higher returns to schooling than did those educated in the earlier time period. This was true for both blacks and whites. Although a substantial gap was still present between black and white returns to education, his findings indicated a marked decrease in the gap and were consistent with the findings of L. Weiss and Williamson (1972).

Smith and Welch (1977) found that black-white earning ratios were higher for those who entered the labor market during the 1960's than for those who entered in earlier years. Also, the ratios were higher for those entering between 1965 and 1970 than for 1960 to 1965 entrants. The most spectacular improvement observed was that of college educated blacks. This was probably attributed in part to the increased number of blacks attending integrated colleges.

Thus far we have noted studies primarily concerned with race as an interaction variable in returns to education. Sex is also a key factor of interest in conjunction with education, occupational earnings and race.

A prevalent view among labor economists is that black women, particularly those who are better educated, do not experience racial discrimination in the labor market (Freeman:1971). However, there are a number of studies that provide findings to challenge this viewpoint. One such study was conducted by King (1978). His general analysis found that black women received 92 percent of what white women earned. Also, in the professional-technical occupations, blacks earned 11 percent more than whites. However, when only women who work fulltime all year were used for comparison, black women were found to earn only 85 percent of that earned by white women. At the professional-technical level, blacks earned 99 percent of what whites earned - a decrease from the 11 percent more previously reported.

Gwartney (1972) compared the hourly earnings of nonwhite females with those of white females for both 1959 and 1966. His figures revealed little income difference between female, white and nonwhite, college graduates. However, for those nonwhite women with lower levels of education, income differences did occur. It was concluded that wages for women in general may be lower than wages for males, but at the college level the effect of the additional factor of race is negligible.

Concerning discrimination against females generally, a study by the Michigan Survey Research Center revealed a mean difference of \$5,000 in annual pay between men and women working fulltime in 1969. Cohen (1971) reported that the median income of women in 1969 was about 55 percent that of men. A comparison between male and female earnings

by education, race, and age for the period 1960 to 1970 indicated that the cost of female sexuality was very high and had risen during the decade for all levels of education. The highest cost was experienced by females with at least four years of college education. Racial differences in the costs attributed to being female were rather slight. The income of black females relative to black males improved in most instances, but this was found to reflect racial discrimination against black males (Niemi, 1977).

Wolff (1977) conducted extensive studies of the effect of educational attainment on occupational earnings with respect to race and sex data from the 1960 and 1970 Public Use Censuses. His results showed that the primary effect of schooling on earnings was to sort individuals into high-paying or low-paying occupations. However, within an occupation, earnings were generally insensitive to years of schooling, except for a small proportion of specific occupations. For black males and females, there were no occupations within which earnings were sensitive to educational attainment. Sensitivity of earnings to education within occupations was greater for white males than for white females, although more so for white females in 1970 than in 1960, and far more so for whites than blacks. It was found that men, on the average, earned over twice as much as women in both decennial years. Women were concentrated in the traditionally female occupations, which tended to be at the bottom of the earnings scale. Nevertheless, mean earnings for men exceeded those for women even in the primarily female occupations. Despite this, a strong correlation was evident between mean schooling and mean earnings across occupations. Schooling then functions to sort individuals into occupations. A secondary function of schooling is to sort individuals within occupations. However, this latter is a much weaker effect.

Our review of the literature revealed no studies that attempted to analyze other dimensions of job quality from the perspective of returns to education. A major reason for this is the predominant reliance on Census data for these types of investigations.

DATA SOURCE

In 1966, a longitudinal study was initiated in the states of Alabama, Georgia, Louisiana, Mississippi, South Carolina and Texas, representing a crescent of states extending across the deep-South. Rural counties served as the original sampling units with researchers in each state determining the number and location of the counties chosen. Similarity among the resulting sample of counties has been documented (Thomas, 1970; Lever, 1969; White, 1974; Cosby and Charner, 1978 and Howell, 1977).

A second sampling unit was the high school. These were selected randomly from among all high schools in each county. Remnants of a dual educational system still remained in some counties in 1966. Since the majority of black schools had small student enrollments, they were usually included automatically in the school population (Howell and Frese, 1981).

The original contact was made with the panel participants during Spring 1966, when they were high school sophomores. A second contact

was made during the senior year in 1968. At both times questionnaires were administered to all students present on the contact day.

Independent panels were created from among all students completing questionnaires for both the 1966 and 1968 contacts in each state.² The panels were formed using a random sample drawn from the existing pool of approximately 5,000 students stratified by race and sex. The race composition was set at 50:50 from each state; and the sex composition at 60 males and 40 females. Ideally, each state sample was expected to consist of 250 participants providing a total 6 state panel of 1,500 persons. Because of the racial composition of the different state samples, these quotas could not be realized for every state.

Two further contacts were conducted in 1972 and 1978 following extensive efforts to relocate panel participants. Personal interviews were conducted, whenever possible in 1972, supplemented by telephone interviews and mailed questionnaires. This contact resulted in 1,228 completed questionnaires. In 1979, a mail contact procedure supplemented by telephone interviews and finally, personal interviews resulted in 964 completed questionnaires or 78.5 percent of the 1972 panel members. The recontacted panel members were 35.3 percent black and 45.5 percent female.

MEASUREMENT

The concern of this investigation is the relationship between educational attainment and job quality. Educational attainment is identified as the independent or causal condition used to differentiate several dimensions of job quality by race and sex. In this section we describe the operational definitions used in measuring both the independent and dependent conditions.

Independent Variable

The independent variable, level of educational attainment, was determined by asking panel participants to indicate all of the educational or special training programs they had completed. A list of eleven kinds of programs was presented.³ The particular program having the highest status potential was used to reflect level of educational attainment. The range of attainments was reduced to five by combining logically similar categories. These five educational levels were: High school or less (1, 2), Technical Training (3, 4, 5, 6), Junior College (7), College (8), Post college (9, 10, 11).

²See Howell and Frese (1981) for a more detailed discussion of the procedure and any variations experienced in specific states.

³Eleven kinds of education programs and their codes included: 1) some high school, 2) high school, 3) military training, 4) vocational-technical, 5) business or clerical, 6) practical nursing, 7) associate degree junior college, 8) bachelor, 9) master, 10) professional, or 11) doctoral programs.

Dependent Variables

Six variables are used to reflect different dimensions of the dependent factor conceptualized as job quality. These include the status ranking of the current occupation, the income earned, the supervisory of responsibility held, and the extent of work autonomy. This latter dimension consists of three specific work conditions: 1) having a say in the speed one works, 2) having a say in the timing of work breaks, and 3) having a say in the number of hours worked per week. Responses to each of the work autonomy variables involved a 3-point scale ranging from most of the time, to some of the time, to seldom.

The occupation variable was specified in terms of the U.S. Census classification and summarized into six types, plus a seventh type for women-housewife. The different occupational types used were: 1) professional and technical, 2) managerial and administrative, 3) sales and clerical, 4) craft and foreman, 5) operative and service, 6) unskilled labor, and 7) housewife. In a general sense, these categories represent an inverse occupational status ranking with the lowest score representing the highest rank.

Income was defined as the average monthly take-home pay from the current job. Income went as high as \$8,000 per month. This range was collapsed into four income levels: 1) \$1-\$549, 2) \$550-\$799, 3) \$800-\$1,199 and 4) \$1,200 or more.

Responsibility in the work place was operationalized in terms of the supervision of other workers. The more workers supervised the greater the responsibility. Degree of responsibility was measured on four levels: 0) no workers, 1) 1 to 3 workers, 2) 4 to 9 workers, and 3) 10 or more workers supervised.

Special analytical attention is given to the control variables of race and sex. Because of the composition of this deep South sample, only two racial groups were identified - white and black (Negro). These two categories accounted for 99 percent of the respondents. The remaining 10 participants, 8 of whom were of Spanish-American heritage, were included in the white category.

Statistical Analysis

The design of this analysis is to determine distributional differences in selected job characteristics associated with different levels of educational attainment. Descriptively, the chi square statistic offers a technique for testing the significance of distributional differences in bivariate relationships. All statistical tests reported are computed on the full crosstab for the independent and dependent variables as categorized above. For purposes of expedience only one category of the dependent variable is provided in the summary tables presented. Differences are noted for chi square values significant at the .05 and .01 probability levels.

RESULTS :

Preliminary Observations (Table I.)

Table I presents statistics for status attainment on the six selected job quality indicators for each level of educational attainment. Looking first at the significance of the relationship between educational attainment and each of the job quality indicators, we found that the hypothesized relationship existed with respect to monthly earnings and with respect to all but one of the other job quality indicators. This relationship is in a positive direction. As educational attainment level rose, the proportion of panel members achieving higher quality jobs also rose. In the measure of autonomy, only the say in work hours was not found to be significantly related to educational attainment. However, it is worthy of note that other occupational considerations may operate beyond educational attainment to provide autonomy in determining the number of hours one works.

Table I. Percent of Study Participants Attaining Different Levels of Education Related to Three Selected Indicators of Job Quality

Level of Educational Attainment	Job Quality Indicators					
	Occupational Status (PTM)	Income	Responsibility	Autonomy		
	Prof.-Tech. Managers-Admin.	Adv. Monthly Take Home Pay of \$800 or more	Supervising 4 or more people	Say in Work		
				Speed	Breaks	Hours
H.S. or Less	13.9	37.7	19.8	60.3	47.0	38.3
H.S. + Training	19.8	45.1	29.0	66.8	60.4	33.8
Jr. College	29.7	61.9	34.0	83.5	67.2	31.3
B.A.	67.8	67.3	38.9	85.0	75.8	43.9
Post College	92.8	65.1	34.2	89.2	69.1	35.8
Chi Square	386.08	100.14	39.23	58.51	41.98	8.88
Degrees of Freedom	24	12	12	8	8	8
Significance	*	*	*	*	*	N.S.

* Probability .01
 ** Probability .05
 N.S. - Not Significant at .05 Level

Proceeding to examine results by educational level, the high school or less attainment level was found to have the lowest proportions of those reaching the top of the job quality hierarchy. The autonomy measures of say in work speed and work breaks are somewhat of a surprise, starting as they do at 60.3 percent and 47 percent respectively. Greater proportions attained this highest measure of work autonomy, at all educational levels, than might have been expected. The gains realized by the addition of training are relatively minimal, excepting in say in work breaks. Considering the percent gain at each additional education level over the previous

standing, the factor say in work breaks takes its largest incremental jump at this point. This is followed next most closely by say in work speed. Thus, for increases in work autonomy, training beyond high school is a valuable asset, more so than for other job quality indicators.

The value of obtaining a junior college degree without continuing into a bachelors program is sometimes called into question. This data indicates a definite positive value of such attainment. The proportion of those earning in excess of \$799 per month had its largest increase here, rising nearly 17 percent over the high school plus training level of educational attainment. Proportions supervising four or more people and having a high degree of say in work speed also made the largest gains at this level. While not at its most dramatic advancement, proportions of those attaining professional-technical or managerial-administrative (PTMA) positions rises substantially and say in work breaks continues to rise at the junior college level.

The largest percent gain in the proportion attaining PTMA positions occurs at the B.A. level. The second largest percent gain in say in work breaks occurred here as well. Gains in earnings, supervisory, and say in work speed categories were small. This would appear to indicate that in these three areas returns to B.A. over a junior college degree are not very great.

Those falling into the post college level of educational attainment accrue a 25 percent gain over those attaining only the B.A. level in the occupation prestige category, for an impressive total of 92.8 percent in PTMA positions. On the other job quality indicators the percent change was either slight or in a negative direction. However, it must be considered that at the time this information was collected persons having attained post college education had been in the job market two to five years less than B.A.'s. This fact probably partially accounts for the negative percent change. It is to be expected that for those indicators for which proportional decreases were found, that given equal time in the labor force some positive gain would be evidenced for the post college level.

Observations by Race (Tables II and III)

Analysis of job quality revealed a consistent pattern of difference associated with educational attainment between blacks and whites. The most dramatic finding was the wide difference in job quality at the lowest educational levels. These differences tended to narrow at higher levels of education for most quality indicators, especially income and having a say in the timing of work breaks.

Separate analysis for each racial group showed that educational attainment was positively associated with improved job quality for four indicators and partially associated for one other. Positive relationships for both whites and blacks existed for occupational status, average monthly income, having a say in the speed one works, and having a say in the timing of work breaks. Job responsibility for supervision of other workers increased with educational attainment for whites but not significantly for blacks. Neither whites nor blacks realized a consistent pattern of control over having a say in the hours worked per month.

Table II. Percent of Study Participants Attaining Different Levels of Education Related to Three Selected Indicators of Job Quality, Controlling for Race.

Level of Educational Attainment	Job Quality Indicators					
	Occupational Status (PINA)		Income		Responsibility	
	Prof.-Tech. Managers-Admin.		Adv. Monthly Take Home Pay of \$800 or More		Supervising 4 or more people	
	W	B	W	B	W	B
H.S. or Less	16.2	9.7	42.9	24.9	22.2	16.5
H.S. + Training	25.7	11.2	51.4	36.0	20.7	19.0
Jr. College	36.8	15.6	71.0	37.9	37.9	24.1
B.A.	69.2	62.1	68.3	63.3	39.7	26.5
Post College	95.4	82.3	65.1	64.7	36.5	25.0
Chi Square	265.27	119.06	73.51	35.51	27.80	9.27
Degrees of Freedom	24	24	12	12	12	12
Significance	*	*	*	*	*	N.S.

* Probability < .01

** Probability < .05

N.S. - Not Significant At .05 Level

Table III. Percent of Study Participants Attaining Different Levels of Education Related to Three Selected Indicators of the Autonomy Aspect of Job Quality, Controlling for Race.

Level of Educational Attainment	Job Quality-Autonomy Indicators					
	Say in Work Specd		Say in Work Breaks		Say in Work Hours	
	W	B	W	B	W	B
	W	B	W	B	W	B
H.S. or Less	69.0	47.7	53.1	37.9	41.7	28.4
H.S. + Training	77.8	58.0	71.8	44.6	37.8	27.5
Jr. College	85.2	79.4	74.1	51.4	38.8	14.3
B.A.	86.8	78.4	77.2	69.4	44.4	41.7
Post College	90.9	82.4	69.2	68.8	40.6	17.6
Chi Square	26.75	21.14	29.02	16.02	8.64	12.60
Degrees of Freedom	8	8	8	8	8	8
Significance	*	*	*	**	N.S.	N.S.

* Probability < .01

** Probability < .05

N.S. - Not Significant At .05 Level

At all educational attainment levels and for all indicators of job quality percentages for blacks fell lower than those of whites. The largest percent gain on occupational status attainment for both race categories was still at the B.A. level, however the gain for blacks relative to whites at this level was much greater. For blacks the figures increased from 15.6 percent at the junior college level to 62.1 percent for B.A. level attainers in this top occupational status classification. Obtaining a B.A. was more crucial to reaching a PTMA position for blacks than for whites. At the post college level 95.4 percent of whites and 82.3 percent of blacks obtained PTMA positions.

It previously had been noted that the junior college level saw the largest rise in percent earning \$800 or more. This held quite strongly for whites but for blacks the rise was slight. For blacks the break point occurs at the B.A. level. A junior college educational level had little monetary return for blacks over high school plus training. At both the B.A. and post college levels the degree of black-white differential decreased substantially. At the post college level the proportion of blacks earning \$800 or more monthly was virtually the same as that of whites.

The responsibility variable, reflected in the category of supervising four or more people, also revealed race differences at most educational levels. Those at the junior college education level had the largest increase among both blacks and whites. However, while black and white proportions were within two percentage points of one another at the high school plus training level, whites gained some 17 percent at the junior college level, whereas the increase for blacks was only some 5 percent. Indeed, concerning the responsibility aspect of job quality tests of significance indicated a strong relationship to education ($p < .01$) for whites but a nonsignificant relationship for blacks.

Race differences occurred also for the various dimensions of work autonomy. The largest gain in autonomy were at the high school plus training level for whites. Black gains in say in work speed were substantial at this point also, but the increase was twice as large at the junior college level. For having a say in breaks the largest increase did not occur for blacks until the B.A. level was reached. Thus, in order to match the proportion of whites having a say, in work speed and breaks at the high school plus training level, blacks must have attained the junior college or B.A. level, respectively. There was, however, a substantial decrease in the proportion of whites having say in work breaks at the post college level, while this decrease did not occur for blacks. The result is to make the two groups more similar at the highest level. Although at no point did blacks achieve proportional parity with whites, overall higher education decreased the black-white differences in attainment of job quality indicators.

Observations by Sex (Tables IV and V)

With sex held constant, statistically significant associations between level of educational attainment and 4 of the 6 indicators of job quality were observed for both males and females. As hypothesized, in each relationship a positive association existed for occupational status, income, having a say in one's work speed and to a lesser extent

Table IV. Percent of Study Participants Attaining Different Levels of Education Related to Three Selected Indicators of Job Quality, Controlling for Sex.

Level of Educational Attainment	Job Quality Indicators					
	Occupational Status (PTMA)		Income		Responsibility	
	Prof.-Tech. Managers-Admin.		Adv. Monthly Take Home Pay of \$800 or More		Supervising 4 or more people	
	M	F	M	F	M	F
H.S. or Less	24.0	7.5	67.8	12.8	29.2	11.7
H.S. + Training	25.2	12.4	62.5	19.2	23.1	13.3
Jr. College	30.1	32.5	81.4	22.9	41.4	18.2
B.A.	64.1	74.6	82.7	38.2	46.2	19.6
Post College	95.2	90.3	76.9	33.7	42.5	13.6
Chi Square	188.78	237.30	31.69	72.42	33.88	17.82
Degrees of Freedom	24	24	12	12	12	12
Significance	*	*	*	*	*	N.S.

* Probability < .01

** Probability < .05

N.S. - Not Significant At .05 Level

Table V. Percent of Study Participants Attaining Different Levels of Education Related to Three Selected Indicators of the Autonomy Aspect of Job Quality.

Level of Educational Attainment	Job Quality - Autonomy Indicators					
	Say in Work Speed		Say in Work Breaks		Say in Work Hours	
	M	F	M	F	M	F
H.S. or Less	69.8	52.5	58.8	37.3	41.2	32.2
H.S. + Training	74.2	63.1	64.2	55.0	35.9	30.3
Jr. College	83.1	84.2	69.2	63.2	33.3	27.0
B.A.	87.6	80.0	84.8	58.3	52.7	27.1
Post College	90.7	87.5	85.7	51.3	56.1	15.0
Chi Square	23.02	31.38	28.57	18.90	14.50	6.21
Degrees of Freedom	8	8	8	8	8	8
Significance	*	*	*	*	N.S.	N.S.

* Probability < .01

** Probability < .05

N.S. - Not significant At .05 Level

for women, having a say in the timing of work breaks. No relationship was detected for either males or females between their having a say in the hours worked and the different levels of education. The indicator most clearly differentiating a sex difference was the significant association between educational attainment and supervisory responsibility for men, whereas no such relationship existed for women.

A comparison of the male and female percentages for each level of educational attainment indicates the sex difference in job quality rewards. Occupational status was the only quality indicator on which women fared better than men at both the junior college level and college levels. The percentages of women with junior college or college level educations who hold PTMA positions exceeds those for men by 24 and 10 percent respectively. The largest percentage gain in PTMA jobs also occurred at the B.A. levels for both males and females. However, at the post college level almost 5 percent more males held PTMA positions than did females. This reversal was the result of a percentage increase for males almost twice that for females. Thus, while junior college and B.A. levels of educational attainment tends to favor the occupational advancement of women relative to men, at the post college level the proportion of men holding PTMA positions again exceeds that of females.

Men earn considerably more per month than women at all educational levels. The difference narrowed somewhat at the highest levels but were consistently large. Women in this income bracket were from some 43 to 58 percent fewer than were males at all levels of educational attainment. Both groups realized lower proportions at the post college level, but this is probably due to the later entrance of post college level attainers into the work force.

Males with junior college degrees had the largest gain in the proportion having supervisory responsibilities. Females began low on this indicator and remained low, attaining a high of only about 25 percent at the post college level, compared to 46 percent for males at the college level.

Generally men experienced more work autonomy than women at all levels of education attainment. The one exception was in having a say in work speed where the proportion for both sexes was similar at the junior college level. With regards to having a say in the timing of work breaks percentage differences were as large as 34 percent, with this largest differential being at the post graduate level of educational attainment. As with the other job quality indicators, the female proportions were consistently low with respect to those for males even when educational attainment was high.

Observations by Race and Sex (Tables VI and VII)

When controlling for both race and sex simultaneously the sample size in the given categories is reduced considerably, thereby affecting the generalizeability of the results. However, this further analysis of race sex interaction is insightful. The most distinctive finding was that educational attainment was significantly associated with occupational status within all race-sex groups. To a lesser extent the same was true for income. Results were mixed for the remaining job

Table VI. Percent of Study Participants Attaining Different Levels of Education Related to Three Selected Indicators of Job Quality, Controlling for Race and Sex.

Level of Educational Attainment	Job Quality Indicators											
	Occupational Status				Income				Responsibility			
	(PTMA) Prof.-Tech. Managers-Admin.				Adv. Monthly Take Home Pay of \$800 or more				Supervising 4 or more people			
	WM	BM	WF	BF	WM	BM	WF	BF	WM	BM	WF	BF
H.S. or Less	32.3	8.8	5.5	10.4	75.5	34.6	14.1	11.1	34.5	21.1	11.0	12.8
H.S. + Training	31.6	15.0	17.0	7.2	67.8	34.5	24.1	13.3	24.2	21.4	14.8	15.9
Jr. College	34.5	12.6	41.7	18.8	87.3	60.0	28.6	14.2	43.6	33.3	21.1	14.2
B.A.	65.3	56.3	78.6	66.6	84.4	71.3	33.8	56.3	47.8	37.6	21.1	16.7
Post College	104.5	100.0	96.6	72.7	75.8	83.3	53.3	54.5	40.0	60.0	32.1	9.1
Chi Square	135.13	57.62	169.62	82.61	22.57	22.57	49.93	43.12	22.29	12	23.47	7.69
Degrees of Freedom	20	20	24	24	12	12	12	12	12	12	12	12
Significance	*	*	*	*	**	**	*	*	**	N.S.	**	N.S.

* Probability < .01

** Probability < .05

N.S. - Not Significant At .05 Level

Table VII. Percent of Study Participants Attaining Different Levels of Education Related to Three Selected Indicators of The Autonomy Aspect of Job Quality, Controlling for Race and Sex.

Level of Educational Attainment	Job Quality - Autonomy Indicators											
	Say in Work Speed				Say in Work Breaks				Say in Work Hours			
	WM	BM	WF	BF	WM	BM	WF	BF	WM	BM	WF	BF
	WM	BM	WF	BF	WM	BM	WF	BF	WM	BM	WF	BF
H.S. or Less	78.0	56.8	61.2	41.2	62.3	52.8	44.8	27.5	46.7	32.4	37.3	25.5
H.S. + Training	83.2	60.9	69.8	54.2	72.6	51.6	70.5	35.4	40.0	29.5	34.4	25.0
Jr. College	86.4	72.2	81.8	87.5	79.7	36.8	59.1	68.8	40.7	10.5	33.3	18.8
B.A.	88.5	82.4	82.5	75.0	86.5	75.0	55.0	65.0	56.3	31.3	15.4	50.0
Post College	89.2	100.0	93.1	72.7	83.3	100.0	51.7	50.0	57.1	50.0	20.7	0.0
Chi Square	13.51	8.17	16.10	17.52	19.02	12.75	18.31	15.44	11.94	11.24	9.63	14.78
Degrees of Freedom	8	8	8	8	8	8	8	8	8	8	8	8
Significance	N.S.	N.S.	**	**	**	N.S.	**	**	N.S.	N.S.	N.S.	N.S.

* Probability < .01

** Probability < .05

N.S. - Not Significant At .05 Level

quality indicators. Supervisory responsibility was significantly associated with education level among white males and females but not for blacks. Having a say in work speed was significantly related to level of education for women regardless of race but not for men. The autonomy indicator of having a say in work breaks was significantly associated with educational attainment for each race-sex group except black males. Finally, having a say in the work hours again failed to be significant for any of the race-sex groups.

Further analysis of the percentage distributions within each race-sex group at the various levels of educational attainment points up the extent of job quality variability. White males consistently scored better on each of the 6 quality indicators. An exception was the higher proportions of white women in PTMA occupations who had junior college, college or post college degrees and for black males with post college degrees. More than 41 percent of white women at the junior college level classified their occupation as PTMA, reflecting somewhat the greater availability of programs such as practical nursing which prepare primarily women for entry into technical occupations.

For white males the largest percent gains for PTMA positions, and also the highest overall proportions, occurred at the B.A. and post college levels. This was also true for black males, although the proportion of black males was lower than that of white males at the B.A. level, and higher at the post college level. Proportions for white females gained most substantially at the higher education levels. Beginning with junior college, proportions of white females attaining PTMA positions were actually larger than those of white males. Black females achieved larger proportions in PTMA jobs than black males at the high school or less, junior college, and B.A. levels of educational attainment, but less than white females at each level excepting high school or less.

Both white and black males had larger proportions in monthly pay of \$800 or more at all educational levels, than either black or white females. Black males realized no gains in the proportion in this highest earnings category with the addition of training, and white males actually declined nearly 8 percent in proportion receiving \$800 or more monthly with the addition of training. Still, black males had lower proportions than white males until the post college category is reached. At the B.A. and post college levels white male proportions decreased while black male proportions continued to rise. Thus, black males had a larger proportion earning \$800 or more monthly at the post college level, but still did not equal the white male proportions of the junior college level or even the lower proportion at the B.A. level. For white females the largest percent gain did not occur until the post college level, and even then the proportion was some 53 percent compared to some 76 and 83 percent for white and black males, respectively. Black females, however, experienced an extremely large gain at the B.A. level, bringing them up to some 56 percent at this level, with a slight drop to somewhat less than 55 percent at the post college level. Thus, black females were substantially better off than white females at the B.A. level, and somewhat better at the post college level. Unfortunately, neither black nor white females at any level of educational attainment achieved a proportion making \$800 or more equal to that of white males at the high school or less level.

In achieving job responsibility for the work of other the addition of training resulted in an approximately 10 percent proportional drop for white males. The largest percentage gain observed was at the junior college level for white males and at the post college level for white females. White females do not at any educational level achieve a proportion of responsibility as supervisory status equal to that of white males at just the high school or less level of educational attainment. The relationship between educational attainment and achievement of responsibility, supervisory status, was not significant for either black males or black females. This breakdown reveals that it is black females rather than all females, for whom there fails to be any increase in responsibility associated with educational attainment.

For males, both black and white, say in work speed was not significantly related to educational attainment, whereas for both black and white females this is a significant relationship. The largest percent gain was at the junior college level for black and white females. At this level black females had an advantage over white females but thereafter proportions for black females declined, placing them below white females at the two highest educational levels.

Say in work breaks was not significantly related to educational level for black males, but was for white males. For whites, both male and female, the largest percent gain occurred at the high school plus training level. Both white and black females had lower proportions at all levels than did white males. The largest percent gain for black females was at the junior college level, which brought them at this point ahead of white females. Although the proportions for both black and white females decreased at each higher level of education, black females remained ahead at the B.A. level and only slightly behind at the post college level of educational attainment. At no point did female proportions for having say in work breaks equal those of white males just at the high school plus training level.

Summary Discussion

Overall, level of educational attainment is positively related to job quality indicators. However, breakdowns by race and sex show this to be untrue in some instances. For blacks, attaining supervisory status is not significantly related to education. For white and black males say in work speed is not, and for black males say in work breaks is not significantly related to educational attainment. These lacks of significant relationships indicate strong race-sex differences. Other race-sex differences are present as well. In general whites achieve larger proportions than blacks, and males larger proportions than females, on these indicators of high job quality and autonomy. In particular though, black males at the post college level have higher proportions than white males in PTMA positions, earning \$800 or more, supervising 4 or more (degree of responsibility), say in speed and say in breaks (work autonomy). Declines from the previous levels for white males, while black males continue to rise, contribute to this. It has been noted previously that drops at the post college level are partially due to this group having more recently entered the labor force. Black females also exhibit consistent declines from B.A. level to the

post college level. This could be accounted for in the same fashion as previously suggested for white males, possibly in conjunction with particular discrimination against black females.

This study has found that for southern rural populations discrimination is still present in the workplace. In some instances this inequality can be partly mitigated by educational attainment. However, different educational levels have differing results for different populations, on the basis of race and sex. No one educational attainment level can provide the greatest opportunity for all aspects of job quality. Individual decisions as to the value of specific aspects of the employment situation must be made with respect to the value of continuing education.

Interpretation

Overall, level of education was shown to be positively related to a variety of objective and subjective indicators of job quality. The most consistent associations were found regarding the objective indicators of occupational status and monthly income. These relationships held for all race and sex subgroups as well as for the total sample.

Our interpretation of these findings is that subtle forms of job discrimination continue to exist in the workplace. This discrimination is probably fostered from two directions. First there is little reason to doubt that many employers continue to show preference for white males over blacks and women. Second, the expectations and career goals of blacks and women, particularly, serve to channel them into stereotyped occupations where traditional patterns of discrimination are most deeply entrenched.

These findings are limited by the fact that this sample of young adults represent rural areas and small town settings in the South. Many of them had migrated to urban areas but the majority remained in the vicinity where they grew up. Clearly, rural and small town employers would be expected to follow more traditional employment practices than would be anticipated in larger, more diversified settings. However, we do not believe that differences between rural and urban are sufficient to account for the distinct pattern of job quality differentials observed. Further studies of urban samples, we predict, will result in similar findings.

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A COMPARATIVE ANALYSIS OF JOB SATISFACTION
AMONG
ECOLOGICALLY-ORIENTED OCCUPATIONAL GROUPS

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INTRODUCTION

In recent years there has been growing concern with developing and utilizing our natural resources in a way which preserves not only their economic value but also preserves their recreational and esthetic value. In order to achieve a successful integration of the diverse and sometimes conflicting goals related to our natural resources, it is important to attract and retain well-qualified individuals into those occupations which are charged with the responsibility for environmental stewardship.

For several years, our colleagues and we have been conducting a series of studies focusing on various aspects of ecologically-oriented occupations in the Commonwealth of Virginia (Bryant, et al, 1976; Shoemaker and Bryant, 1976; Snizek, et al, 1974; Snizek, et al, 1975; Snizek, et al, 1976). The present paper examines the level and correlates of job satisfaction in five such occupations.

ORGANIZATIONAL CONTEXT

The five occupations examined in this paper include: fisheries biologists, game wardens, marine agents, and forest and park rangers. It is useful to briefly describe the context and concerns of each of these occupational groups.

Fisheries biologists are professionals found in a variety of governmental agencies whose principal duties revolve around the administration of fishery activities, management and manipulation of fish populations, or teaching and research in fishery-related areas. In addition to their contribution to commercial fishing, fisheries biologists also contribute to sport fishing which, it has been argued (Bryant, et al, 1976), offers a last opportunity for modern man to satisfy his desire to be a part of his natural environment. As scientifically-trained professionals, fisheries biologists are primarily concerned with research and the technical management of water-related resources, especially fisheries resources.

Marine agents studied in this paper are officers in the law enforcement division of the Virginia Marine Resources Commission. The Commission is charged with enforcement of state regulations pertaining to water pollution or water usage in salt or brackish waters within Virginia. More specifically, the duties of the law enforcement division include: issuing licenses, patrolling condemned areas, monitoring the oyster bedding process, and coenforcing provisions of small boating regulations, with Virginia Game Wardens. Marine agents thus have the dual role of law enforcement and conservation.

Game wardens examined in this study are employed by the Game and Fish Commission of Virginia. The game warden's responsibilities involve the preservation and productive management of wildlife resources. As noted above, game wardens cooperate with marine agents for certain enforcement responsibilities. Hunting and fishing are multi-billion dollar recreational industries which attract millions of sportsmen. Game wardens must police the activities not only of these sportsmen, but in some cases they must also encounter commercial or even professional violators of game laws. The activities of game wardens are often solitary and sometimes dangerous. In spite of dedication under difficult circumstances, game wardens often fail to command the respect of the general public. As one game warden commented, "To the public, a game warden is a son-of-a-bitch if he just wears a uniform. If he writes (them) a ticket, he's a dirty son-of-a-bitch." (Bryant, et al, 1976:5).

Park and forest rangers involved in this study were employed at both the state and federal level. At both levels, differences exist in the principal organizational mission of park rangers, as compared to forest rangers. Park rangers are primarily concerned with preservation, conservation, recreation, and education

functions. That is, their main responsibility is to assist the public in the enjoyment and understanding of natural resources and to preserve these resources for future generations. Forest rangers, on the other hand, are organizationally much more involved with utilizing natural resources to maximize economic production. The U.S. Forest Service recognizes five primary resources or services which accrue from the National Forest System. These include timber, water, forage, wildlife, and recreation. The guiding organizational philosophy is termed the "multiple use-sustained yield" doctrine. Thus, the Forest Service seeks to maximize the availability and use of forest resources. The Division of Forestry, located within the Department of Conservation and Economic Development in Virginia, embraces a similar philosophy.

These five occupational groups thus are broadly concerned with a range of environmental issues pertaining especially to the forest and water resources of Virginia. Their specific organizational mandates vary, but, collectively, they are concerned with conservation, preservation, production, and enforcement.

In all, 276 respondents were interviewed. Forty-eight were fisheries biologists; 85 were game wardens; 51 were marine agents; 52 were forest rangers; and 37 were park rangers.

JOB SATISFACTION SCALE

The purpose of this paper is to analyze the level of job satisfaction among and between these occupational groups. The paper relies on an 18-item job satisfaction scale originally developed by Brayfield and Rothe (1951). Each of the 18 items has standard five-point Likert response categories. Ten of the items are phrased so that agreement indicates job satisfaction, while the other eight items are phrased so that disagreement indicates job satisfaction. The latter eight items were recoded so that for all 18 items a higher score indicates higher job satisfaction. A scale was formed by calculating the mean score for all 18 items. Examples of satisfaction items in which agreement indicates job satisfaction include, "My job is like a hobby to me" or "Most days I am enthusiastic about my work." Examples of items in which disagreement indicates job satisfaction include, "Most of the time I have to force myself to go to work" or "I am disappointed that I ever took this job."

OCCUPATIONAL DIFFERENCES IN JOB SATISFACTION

Several hypotheses will be advanced to explain differences in the level of job satisfaction reported by practitioners in each occupational group. Before these hypotheses are presented or discussed, however, we will discuss differences among the five occupational groups.

The groups reporting the highest level of job satisfaction, according to the Brayfield-Roth scale, are marine agents and forest and park rangers. All three of these groups have mean job satisfaction scores of about 4.0 on a 5.0 scale. Fisheries biologists and game wardens both report mean job satisfaction scores of 3.0. Although the latter two scores are average in an absolute sense, they are clearly lower than those for marine agents and for rangers. These differences are significant at the .001 level of significance ($F=183.9$).

Not only are there significant differences in the level of job satisfaction by occupational group, but these differences account for a large proportion of the variance in job satisfaction scores for these five occupational groups. In fact, occupational group explains 73 percent of the variance in job satisfaction scores for the 276 respondents. Furthermore, the scores are fairly tightly clustered within each occupational group. The standard deviation of job satisfaction scores is less than .31 for fisheries biologists, game wardens, marine agents, and park rangers and is only .44 for forest rangers. These standard deviations are fairly small for a five-point scale.

The relatively low job satisfaction of game wardens might be attributed to the generally low esteem with which they are held by the broader community. The low job satisfaction of fisheries biologists is more difficult to understand. It perhaps has to do with unrealized aspirations to pursue different careers. The fisheries biologists in the study were employed by governmental agencies. Perhaps some substantial proportion would have preferred the different sorts of opportunities available in private industry or the university but, for one reason or another, were unable to pursue such careers.

HYPOTHESES

A series of hypotheses will be proposed to explain differences in level of job satisfaction within each occupation. Correlational analyses pertaining to each hypothesis are presented in Table I. The results of additional analyses employing analysis of variance (using categories for the correlates) are referred to but are not presented due to space limitations.

1. Educational attainment is negatively related to job satisfaction.

In a cross-section of the population, it might be reasonable to have the opposite expectation. As Vollmer and Kinney (1955) argue, it is reasonable to assume that persons with higher educational attainment have higher expectations in terms of income, working conditions, and so forth. There also tends to be a positive relationship between educational attainment and objective work conditions, including income. In the current context, however, we are examining job satisfaction after a very substantial control for occupation has been introduced. Although there are certainly variations in the hierarchical position among respondents in the same occupation, these data essentially examine the job satisfaction of individuals who have roughly the same occupation, but varying levels of education. In this situation, we hypothesize that those with more education are likely to be less satisfied with their job.

In this study, there is essentially no relationship between educational attainment and job satisfaction within occupational groups. Most fisheries biologists have at least a college degree (78 percent); this restriction in range perhaps accounts for the lack of a relationship. Park and forest rangers have a much greater dispersion in terms of educational attainment, but there is very little variation in mean job satisfaction for rangers who graduated from high school, regardless of how much further they continued their education.¹ Among game wardens, the bulk of practitioners in the sample either terminated their education with high school graduation or had some college training but did not graduate from college (63 of 74 wardens are in one of these two categories). There is virtually no difference in the job satisfaction of these two groups (i.e. high school graduates and those with some college), and very little variation in mean job satisfaction when other educational groups are included. Marine agents are fairly evenly distributed across educational categories,² but there is little difference in mean job satisfaction across these

¹ Only two park rangers and two forest rangers had less than a high school degree.

² But few marine agents graduated from college--only 2 of 51.

educational categories for marine agents. Thus, within occupational group, education is essentially unrelated to job satisfaction.

2. Number of years in the job is positively related to job satisfaction.

There are several reasons to expect job tenure to be related to job satisfaction. First, job-related skills may be acquired or improve with experience on the job. A person who does a better job may be more satisfied with his job. Second, promotions that may come with seniority may increase the rewards of the job, and enhance job satisfaction. Third, individuals who are satisfied with their jobs may be more likely to remain in those jobs, while those who are less satisfied may leave. Several researchers have found a positive relationship between these two factors (Wild and Dawson, 1972; Hulin and Smith, 1965), while some have reported findings which contradict this hypothesis (Gibson and Klein, 1970).

In this study, there is essentially no relationship between job tenure and job satisfaction within occupational groups. While these occupational groups differ in terms of the mean number of years on the job,³ within each occupational group, the variation in mean job satisfaction across four categories of job tenure is extremely small. For fisheries biologists, the range in mean job satisfaction is from 2.9 to 3.1; for forest and park rangers, 3.9 to 4.1; for game wardens, the mean is 3.0 for each of four job tenure categories; for marine agents, the range is from 3.9 to 4.2. Thus, job tenure seems largely unrelated to job satisfaction.

Next follows a pair of hypotheses concerning job training.

3A. Persons who received more job training have higher job satisfaction.

3B. Individuals who believe they should have received more job training have lower job satisfaction.

Persons who are better trained for their job, it is argued, will do a better job, and consequently derive greater satisfaction from the performance of their duties. Similarly, if individuals feel that they have been inadequately trained for a position, this is likely to result from a perception that they are not performing their duties as effectively as they should, and is likely to be associated with low job satisfaction. "Job training" was operationalized by asking

³ Fisheries biologists and forest and park rangers tend to have somewhat fewer years on the job (about 10 years) than do game wardens and marine agents (about 15 years).

respondents to rate the extent of training they received in each of seven areas relevant to their job.^a These questions were not asked of fisheries biologists and that group is therefore omitted from this part of the analysis.

Subjective evaluation of job training was operationalized by asking each respondent to indicate whether he felt he should have received more training in any of the seven areas. An index was constructed based on the percent of the areas in which the respondent felt he should have received more training.

For game wardens, there appears to be a nonsignificantly negative relationship between job training and job satisfaction. For marine agents and for park rangers, job training is positively and significantly related to job satisfaction. For forest rangers, the relationship appears weakly positive, but attains only borderline significance. However, even for these groups, there are only small differences in job satisfaction across four categories of job training. Therefore, it would be unwise to exaggerate the importance of job training as a correlate of job satisfaction.

The data tend to support the hypothesized relationship between job satisfaction and evaluation of job training. Except for game wardens, job satisfaction and evaluation of training are negatively correlated, as hypothesized. (I.e. if the respondent felt he should have received more training in several areas, he reported lower job satisfaction.) Among marine agents and forest rangers, the negative correlation is statistically significant. Among park rangers, the correlation is negative, but nonsignificant. Only for game wardens is the correlation significantly positive. Although it would be unwise to unduly emphasize the strength or uniformity of the observed relationship, the overall pattern of results lends credence to the hypothesis. An interesting question which remains for future research is whether there are predictable circumstances under which a reversal will be observed, such as is observed here for game wardens.

The final pair of hypotheses concern the social origins of individuals.

^a The seven areas included: how to fill out forms and do paperwork; how to handle oneself when faced with a dangerous situation; how to safely handle firearms and other weapons; how to patrol new or unfamiliar geographic areas; how to plan and carry out conservation measures; how to maintain and service agency equipment; and how to conduct oneself in court. Each respondent was asked to indicate whether the amount of training he received in each area was "none", "little", or "great."

4A. There is a negative relationship between father's education and job satisfaction

The logic for this hypothesis is similar to the logic for Hypothesis 1. Although there are variations in the hierarchical position among respondents in the same occupation, individuals in one occupational group are in similar positions in the occupational hierarchy. Father's education serves as a rough measure of intergenerational occupation mobility. For example, marine agents whose father had relatively little education (i.e. the sons had relatively great upward mobility) will tend to have greater job satisfaction than will marine agents whose father attained a higher level of education (i.e. the sons had less upward mobility, or perhaps downward occupational mobility).

In this study, the evidence is at best mixed concerning the hypothesis of a negative relationship between father's education and job satisfaction. Only for forest rangers is there a significant negative correlation. The correlation is negative for fisheries biologists as well, but in this case is not statistically significant. For the three other occupational groups, the correlation is weak but positive. The prudent course is to refrain from generalizing too broadly from these results.

4B. Individuals who grew up in smaller communities have more job satisfaction.

This hypothesis is derived from the specific nature of the occupations examined in this paper. With the possible exception of fisheries biologists, the practitioners of these occupations spend a good bit of their time "in the field." In many cases, they may have been attracted to these occupations by the possibility of spending time out-of-doors. It is suggested that such work would be more attractive to individuals from small communities. The analysis is based on the respondent's report of the size of the community he grew up in.⁵

The data offer very little empirical support for the hypothesized relationship between size of origin community and job satisfaction. For none of the occupational groups is there a significant relationship between the two variables. For park rangers, the correlation is .24 -- the opposite of the hypothesized direction -- and achieves only borderline significance. For

⁵ These responses were coded into eight categories: open country; small village, not more than 999; large village, 1000-2499; small town, 2500-4999; large town, 5000-9999; small city, 10,000-49,000; large city, 50,000-99,999; metropolitan area, 100,000 or greater.

fisheries biologists, the correlation of $-.16$ is in the hypothesized direction, but is non-significant. It appears, then, that rural origin has little consistent impact -- for better or for worse -- on job satisfaction among individuals in ecologically-oriented occupations. Size of origin community may, of course, have some impact on recruitment patterns.

A Note on Aggregation

The results presented in this paper have involved separate analysis of each occupational group. A different strategy would be to combine the 276 cases for the five occupational groups, and conduct analyses for this combined group. For example, one might examine the relationship between educational level and job satisfaction for the total sample. However, such a strategy would be inappropriate. Such an approach would unnecessarily confound occupation and education, or other correlates. We know, for example, that there is no relationship between education and job satisfaction within any one occupational group. How would we interpret the results if it turned out that, for the combined sample, education is significantly related to job satisfaction? The most reasonable interpretation would be simply that the correlation between education and job satisfaction was spurious, the result of a correlation between occupation and both education and job satisfaction.⁶ It is worth remembering that for these occupational groups there is very little variation in job satisfaction within occupation, at least for this sample. For groups which are so homogeneous with respect to job satisfaction, it may prove difficult to detect with certainty the factors which are associated with what little variation exists.

SUMMARY

This paper has explored job satisfaction for five ecologically-oriented occupations. Marine agents and forest and park rangers report significantly and substantially higher job satisfaction than do fisheries biologists and game wardens. Several potential correlates of job satisfaction were hypothesized: educational attainment; job tenure; job training and evaluation of the adequacy of job training; and social background, including father's occupation and size of origin community.

⁶ In fact, if we do combine all 276 cases, most relationships are still nonsignificant and some of the significant relationships are odd, or least counterintuitive. For example, both job tenure and job training are significantly and negatively correlated with job satisfaction ($-.26$ and $-.12$, respectively).

The data from this study indicate that there are clear differences in the level of job satisfaction among practitioners of the five occupational groups, with forest and park rangers and marine agents reporting significantly higher job satisfaction than either fisheries biologists or game wardens. The data also indicate that job training and the respondent's evaluation of the training he received are factors which are associated with job satisfaction; however, these relationships is not strong. For three variables (i.e. education, job tenure, and size of origin community), no significant relationships were found. For father's education inconsistent patterns were observed. Clearly, more in-depth research must be conducted in order to identify the correlates of job satisfaction for practitioners in ecologically-oriented occupations.

Table 8
Mean Job Satisfaction and Correlations with Other Variables,
by Occupation Group

	Fisheries Biologists (n=48)	Game Warden (n=85)	Marine Agents (n=51)	Forest Rangers (n=52)	Park Rangers (n=37)
Mean Job Satisfaction	3.0	3.0	3.9	3.9	4.2
<u>Correlation with:</u>					
Education	-.15 (ns)	.03 (ns)	.09 (ns)	-.10 (ns)	.14 (ns)
Job Tenure	-.14 (ns)	.15 (.10)	-.05 (ns)	-.13 (ns)	.13 (ns)
Job Training	--	-.14 (.12)	.30 (.04)	.19 (.10)	.37 (.01)
Evaluation of Job Training	--	.21 (.04)	-.29 (.04)	-.27 (.03)	-.18 (ns)
Father's Education	-.08 (ns)	.16 (.11)	.14 (ns)	-.25 (.03)	.12 (ns)
Size of Origin Community	-.16 (ns)	.05 (ns)	-.03 (ns)	-.04 (ns)	.24 (.08)

Note: Number in parenthesis indicates significance level; "ns" means nonsignificant.

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PRESENT AND FUTURE SUPPLY AND DEMAND OF HOME
ECONOMICS INSTRUCTORS IN HIGHER EDUCATION

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Introduction

This descriptive research is concerned with home economics higher education in the southeastern region of the United States. Knowledge about number of students, by level and specialty, provides a base for intelligent decisions regarding public and private investment and program development for higher education. The study will seek to answer questions regarding the appropriateness of given specialties and how well higher education is responding to changing educational needs. Schools and colleges offering higher education will be able to better plan their curriculums if they are aware of changing educational needs. Current and future demand for faculty, by specialty, will be predicted and estimates, regarding current and future supply, formulated.

This research is a portion of a survey conducted by Clemson University and the United States Department of Agriculture (USDA). Investigators at these two agencies collaborated to develop a questionnaire to determine student enrollment and international experience of students and faculty for various specialties within four disciplines: Agriculture, Veterinary Medicine, Forestry and Home Economics. A mailing list compiled as a part of the USDA/Manpower Assessment Project of institutions with these disciplines throughout the United States was used by the Clemson University investigators to identify respondents. The questionnaires for the major survey have been returned, data processed and analysis has begun. The present research will use only the home economics data from respondents in the southeastern region of the United States. Questions related to teacher supply and demand will be explored. The extent to which current and predicted needs for faculty are met will be an important part of the study.

Portions of this introduction were paraphrased from the report, "Enumeration of Home Economics Students and Faculty in Four-Year Colleges and Universities of the United States" (McLean, LeNoir, & Chapman, 1981).

Results

Unfortunately, only 23 (36.5 percent) of the 63 southeastern institutions returned codeable data. Some of the institutions offered no degrees in home economics, courses were offered instead. In other institutions, the curricula had been discontinued. This may account for the small totals in various categories.

The purpose of the international data was to assess the extent and type of faculty international experience and to gain better insight into employment of American/foreign citizens abroad/in the states in positions requiring expertise in the food and agricultural sciences.

Bachelor's enrollment was 8,056, of which 370 were men and 7,686 were women (Table 4). At the master's level, the male enrollment was 78 and female was 881, making a total of 959 (Table 5). Doctoral enrollment was 258 consisting of 70 men and 188 women (Table 6).

The total number of faculty openings was 133 while FTE's with terminal degree were 342 (Table 7). The total headcount of faculty with a terminal degree was 493 with 121 of these being men and 372 being women. Table 8 shows the total number of faculty with terminal degree projected to retire in ten years as 62. This total includes 10 men and 52 women. In most cases, institutions can not afford to have all faculty positions filled with those who hold a terminal degree.

The number of faculty without terminal degree reported as FTE's was 176.75. The total headcount was 159 with 32 men and 227 women. The number of faculty without terminal degree projected to retire in ten years was 28, one man and 27 women. The number of temporary faculty to be replaced as faculty with higher degrees can be recruited was 26.

The vacancy reporting is believed to be accurate or at least not overstated. This was a working hypothesis by the author. The expected retirements, and resignations, for whatever reasons, are difficult to forecast.

Part I: Student Enrollment (Fall, 1979) Table 4

Educational Field (Home Economics)	Bachelor's Level Enrollment		
	Total	Total Men	Total Women
International Programs	2,507	76	2,431
Individual and Family Development (Family Relations, Child Development, Gerontology)	1,333	35	1,298
Food and Nutrition	1,088	69	1,019
Home Environment and Shelter	1,018	47	971
Education	704	28	676
Home Economics General	529	11	518
Family and Community Services	344	17	327
Home Economics in Business	200	2	198
Family/Consumer Resource Management	180	7	173
Institutional Hotel, Restaurant Management	136	78	58
Home Economics Communications	17	0	17
Totals	8,056	370	7,686

Part I: Student Enrollment (Fall, 1979) Table 5

Educational Field (Home Economics)	Master's Level Enrollment		
	Total	Total Men	Total Women
Education	295	0	295
Individual and Family Development (Family Relations, Child Development, Gerontology)	224	40	184
Food and Nutrition	192	25	167
Home Economics General	112	5	107
International Programs	55	3	52
Home Environment and Shelter	34	3	31
Institutional Hotel, Restaurant Management	17	2	15
Family/Consumer Resource Management	16	0	16
Family and Community Services	14	0	14
Home Economics in Business	0	0	0
Home Economics Communications	0	0	0
Totals	959	78	881

Part I: Student Enrollment (Fall, 1979) Table 6

Educational Field (Home Economics)	Doctoral Level Enrollment		
	Total	Total Men	Total Women
Individual and Family Development (Family Relations, Child Development, Gerontology)	135	55	80
Food and Nutrition	51	7	44
International Programs	37	1	36
Home Environment and Shelter	18	3	15
Institutional Hotel, Restaurant Management	8	4	4
Family/Consumer Resource Management	6	0	6
Education	3	0	3
Home Economics General	0	0	0
Home Economics in Business	0	0	0
Home Economics Communications	0	0	0
Family and Community Services	0	0	0
Totals	258	70	188

Part I: Student Enrollment (Fall, 1979) Table 7

Educational Field (Home Economics)	Total Faculty			Number of Unfilled Positions	FTEs
	Number (Headcount)				
	Total	Men	Women		
Individual and Family Development (Family Relations, Child Devel- opment, Gerontology)	168	54	114	30	100
Food and Nutrition	128	36	92	46	96.75
International Programs	70	11	59	18	49.50
Human Environment and Shelter	52	12	40	10	36.50
Education	26	0	26	3	19.75
Home Economics General	22	2	20	9	21.00
Family/Consumer Resource Management	16	4	12	15	11.75
Institutional, Hotel, Restaurant Management	10	2	8	2	5.75
Home Economics Communi- cations	1	0	1	0	1
Home Economics in Business	0	0	0	0	0
Family and Community Services	0	0	0	0	0
Totals	493	121	372	133	342.00

Part II: Faculty (Fall, 1979) Table 8

Educational Field (Home Economics)	<u>Total Faculty</u>		
	Number Projected to Retire in Ten Years		
	Total	Men	Women
Food and Nutrition	20	5	15
Individual and Family Development (Family Relations, Child Development, Gerontology)	16	1	15
International Programs	10	2	8
Home Economics General	6	0	6
Human Environment and Shelter	4	1	3
Education	3	1	2
Institutional, Hotel, Restaurant Management	2	0	2
Home Economics Communications	1	0	1
Home Economics in Business	0	0	0
Family and Community Services	0	0	0
Family/Consumer Resource Management	0	0	0
Totals	62	10	52

Part II: Student Enrollment (Fall, 1979) Table 9

Educational Field (Home Economics)	<u>Faculty Without Terminal Degree</u>			
	Number (Headcount)			
	Total	Men	Women	FTEs
Food and Nutrition	61	10	51	41.25
Individual and Family Development (Family Relations, Child Development, Gerontology)	60	6	54	45.50
International Programs	50	3	47	31.50
Human Environment and Shelter	32	8	24	19.75
Family and Community Services	16	4	12	12.50
Home Economics General	13	0	13	10.75
Education	10	0	10	5.50
Family/Consumer Resource Management	8	0	8	6.25
Institutional, Hotel, Restaurant Management	8	1	7	2.75
Home Economics Communications	1	0	1	1
Home Economics in Business	0	0	0	0
Totals	259	32	227	176.75

Part II: Faculty (Fall, 1979) Table 10

	<u>Faculty without Terminal Degree</u>			Number of Faculty to Be Replaced as Faculty with Higher Degrees Can Be Recruited
Educational Field (Home Economics)	Number Projected to Retire in Ten Years			
	Total	Men	Women	
International Programs	7	1	6	5
Individual and Family Develop- ment, (Family Relations, Child Development, Gerontology)	5	0	5	1
Home Economics General	4	0	4	2
Food and Nutrition	4	0	4	5
Human Environment and Shelter	4	0	4	9
Education	2	0	2	1
Family/Consumer Resource Management	1	0	1	1
Institutional, Hotel, Restaurant Management	1	0	1	1
Family and Community Services	0	0	0	1
Home Economics in Business	0	0	0	0
Home Economics Communications	0	0	0	0
Totals	28	1	27	26

Projected Faculty Needs, 1980-1989 (Vacancies Plus Retirements
Divided by Return Rate) Table 11

Educational Field (Home Economics)	Percent Needed Increase
Food and Nutrition	1.81
Individual and Family Development (Family Relations, Child Development, Gerontology)	1.26
International Programs	.77
Home Economics General	.41
Family/Consumer Resource Management	.41
Home Environment and Shelter	.38
Education	.16
Institutional Hotel, Restaurant Management	.11
Home Economics Communications	.03
Home Economics in Business	.00
Family and Community Services	.00
Totals	5.34

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ATTITUDES TOWARD AGRICULTURAL LAND USE REGULATION:

AN EMPIRICAL CONTRIBUTION*

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INTRODUCTION

How limited land resources are to be used in the future is of concern at all levels of government and to citizens throughout the United States. Shifting land use, haphazard growth patterns, loss of agricultural land, and the protection of our environment are all problems to be faced by our society. In response to such problems, many leaders, along with a growing number of citizens, are becoming more concerned about land use and land use planning. Two major reasons for increased concern are cited. One, there is a fixed amount of land available; and two, the economic and geographic demands for the use of that land are continuously accelerating. There are several subcomponents to these phenomena. First, we may be in danger of running out of certain kinds of land; plants and farm crops need soil types of a particular quality. Second, quantities of prime agricultural land may become scarce in certain geographic areas. Third, uses made of land may not be compatible with adjacent or nearby land uses. Land quality may be damaged by changing to uses for which the resource is poorly suited. It is difficult or impossible to return land to its original use once a change or development has been initiated. Examples include loss of prime agricultural land, open space, and natural wilderness areas; developments that create traffic, noise, and congestion; and housing and commercial developments that require provisions of water and sewage services. Planning for future use of land resources must be investigated and discussed. Even though there is much controversy and debate over specific means and methods for its

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accomplishment, the issue must be faced. In order for effective programs and policies to be developed, there must be input from all sectors of society into the

LITERATURE

Research results will be reviewed in this section that are concerned rather directly with attitudes, perceptions, and opinions about regulation and preservation of agricultural land. The literature suggests that agricultural land is not a topic of concern until some implied or real change impacts upon the quantity and/or quality of the resource. The source of the change is frequently determined by pressures to alter the use of the resource, from agricultural to some other use, with the nature of the change defined as a real threat. Nearby land use changes or environmental hazards may create an indirect threat. Examples of the latter include uses that pollute the air or water. The quantity and quality of the land resources in question is, of course, an important consideration. Hence, attitudes, perceptions, and opinions are affected by cultural values, economic and social norms, and a set of local conditions that are subject to change. One set of actors in this scenario are those playing roles having an effect on the actual change. Governmental and quasi-governmental officials, landowners, and other economic actors are certainly potential respondents. Social scientists generally believe that a much larger public should be knowledgeable about issues emanating from this topic.

One of the foremost research projects on this topic was conducted in Arkansas in 1975 (Jackson, et al., 1979). Sixteen counties were included and data were tabulated from a total of 253 knowledgeable and influentials in those counties. A demographic/geographic sampling procedure was used to obtain a representative sample of the general public, and data were tabulated from a total of 1,665 respondents. All geographic areas of the state were represented among the 16 counties. Data were collected through face-to-face interviews.

In review of selected results of the Arkansas research, the majority of the general public did not view the loss of farmland as a serious problem. A majority did agree that good agricultural land should be zoned to prevent other uses. Influentials and knowledgeable were more likely to view the loss of agricultural land as a problem, but were less likely to favor zoning to help the situation. To quote from the Arkansas report: "The county a person lived in was more important than individual characteristics in predicting support for measures to preserve both agricultural land and scenic natural resources"... "Blacks and females were more likely to support measures to preserve agricultural land, as were small farmers and non-farmers, and those living in places with less planning experience. For scenic and natural resource preservation measures, more support was shown by those living in urban places, those with higher education, and recent returnees to Arkansas"... "Concern for environmental and growth problems was important as a predictor: those more concerned showed more support for preservation of both scenic/natural resources and

agricultural land" (Jackson, et al., 1979, pp. 53-54).

A similar (to the Arkansas) project was conducted in North Dakota in 1976 (Helgeson, et al., 1978). One (nine-county-planning) region was the geographic base for the North Dakota research, with 499 respondents from the general public and 141 officials (those holding an appointed or elected public office) being interviewed. The majority of respondents did not agree that pressures of urban sprawl on agricultural land was a problem (in North Dakota). Rural non-farm and urban officials did agree with that statement, nevertheless. A substantial majority (80 percent) disagreed that market prices should be the only factor which determines how land should be used. A majority of the North Dakota respondents believed that land use controls could be effective in their region, and that agricultural districts could be a useful mechanism.

Two survey research projects, involving only farm respondents, were conducted in Iowa, in 1977 and 1979 (Bultena, et al., 1981; Hoiberg and Bultena, 1981). All commercial farm operators in the state were included in the sample base with an area probability sample drawn to include respondents from each of the 99 counties. Data from 940 respondents were tabulated in the 1977 study, and from 441 respondents in the 1979 study. Both projects concentrated on attitudes toward government regulation and more specifically, a synthesis of respondent characteristics in conjunction with responses about particular regulations. Results from the 1977 project indicated that farmers actually favored more regulation concerning soil conservation and preservation of agricultural land and were generally not opposed to land use regulation. The only farmer-category not favoring land use regulation were those indicating less trust in any government agencies or programs. The 1979 project included questions about methods of preserving agricultural land. The respondents favored special tax assessments and rates for agricultural land and agricultural districts, and were generally indifferent about the ability of the free-market to help the situation. Farmers with higher education tended to favor the former two methods of and oppose the latter.

Another research project was conducted in Ohio, in 1979, using the mailing list for a popular (private) farm magazine as the sample base (Napier, et al., 1980). Questionnaires were mailed to a sample from the list and data were tabulated from 623 respondents. This Ohio sample tended not to support land use planning and regulation of agricultural land by governmental entities. Unlike the Arkansas, North Dakota, and Iowa respondents, the Ohio respondents generally believed that laissez faire and the free market would prevail in orderly land management. It is worthwhile to note that the Ohio sample probably over-represented agribusiness and landowner respondents.

An ambitious project was conducted in 1978 under the auspices of the United States Department of Agriculture (U.S.D.A.) and a Northeast Region technical committee (NE-125) of agricultural economists (Lewis, 1980; Bills, 1981; Colyer, 1981). Farmowner lists were obtained from 49 states (Alaska not included); the northeast includes: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode

Island, and Vermont. Questionnaires were mailed to a sample of the owners and data were tabulated for 37,300 respondents. The object of the survey was to obtain owner and owner-operator characteristics and selected land use responses. About 35 percent of all farmowners were sole proprietor, and 35 percent were husband-wife owned. A total of 10.5 percent were corporate owned. Only 53 percent of the owners used the land for their residence, but 32 percent used the land only for their residence. Respondents using the land for farming only were somewhat more likely to favor individual independence and to oppose regulations. Respondents using the land for mixed uses were also more likely to favor individual independence. Respondents using the land for essentially non-agricultural use, were more likely to favor regulations. These results re-emphasize the statements by the Iowa researchers that farmers with different enterprises and in different locations, will provide varying responses.

A final article will be reviewed which is concerned with prospective regulation of open space and range categories (Corkerham and Blevins, 1977). Research was conducted in 1974 in Teton County, Wyoming, an area undergoing some change from ranch, range, and open space, to resort, recreation, and public/scenic uses. Data from 2,196 respondents were tabulated, of which 189 were personal interviews and 2,007 were mail questionnaires. Results of this research imply the monetary vs. aesthetic motives as suggested from the Ohio research. Owners of small parcels of land and those recently moving to the county favored preservation of open space for public/scenic use. Owners of large parcels and those living in the county many years favored the laissez faire approach including change of large parcels to resort and recreation use.

Additional research has been conducted which deals directly or indirectly with this topic. The aforementioned articles are, nevertheless, representative of the literature. The general public tends to favor (or at least not oppose) land use planning and, in principle, preservation of agricultural land. Farmers in Iowa and North Dakota favored land use planning, preservation of agricultural land, and two general methods of accomplishing the latter. But, economic determinism is omnipresent. Many farmers, ranchers, and other landowners wish to reserve the right to windfall profits.

FINDINGS

COMPARISON OF RESPONSES BY LEADERS AND RESIDENTS OF SUMTER COUNTY

Awareness of Land Use Planning

It may be assumed that leaders are more aware of land use planning than are individual residents of a county. This is based on previous research which has shown that people who are involved in community and political affairs and who are in positions to receive more information are more likely to be aware of issues involving the public good. To test for differences between leaders and residents of Sumter County in

awareness of land use planning, the chi-square statistic was used. Results show that leaders were indeed better informed than residents. While 35 of the 36 leaders (97.2%) were familiar with the concept, the majority of residents (80.3%) reported they had not heard of the term previously. This difference is statistically significant at $\alpha = .05$ level. Therefore, results in Sumter County re-enforce previous findings that persons involved in community affairs are more knowledgeable concerning issues of public concern than is the general public.

Knowledge of Land Use Planning

Land use plans are often developed by, or with the assistance of, professional planners. Often disagreement arises between planners and the public concerning the needs, goals, and objectives of land use plans. The fact that planners and leaders are more aware of, and familiar with, land use planning and its concepts can be a hinderance in the acceptance and implementation of a land use plan if the residents perceive any threat or feel distrust or anxiety about how the plan will affect them. Therefore, to explore the content of their knowledge about land use planning and what it involves, a series of items was presented to residents who reported they were familiar with land use planning. They were asked whether they agreed or disagreed with each item. Again, the chi-square statistic was computed to determine the existence of significant differences between responses from leaders and residents.

Results indicate there are significant differences in responses of leaders and residents for only a few of the items explored. The majority of both samples agreed that land use planning includes zoning, involves a planning board or commission, preserves forest and natural areas, sets aside agricultural land for agricultural uses, and gets money mainly from public funds. Neither sample believed that farmers can be told which crops or livestock to raise nor that the disposal of poultry or cattle waste can be controlled by land use plans. Also, statistically significant agreement was found to indicate leaders and residents feel that land use planning includes pollution controls, subdivision regulations, prevents land uses which disturb the lives of others, and provides public land and parks. However, there were significant differences in responses to some items. Residents who had heard of land use planning were more likely than leaders to answer that land use planning sets the value of land for different uses. More frequently than leaders, residents believed that minimum standards would be set in the use of farmland to avoid pollution of land and water and that it sets health standards for property uses.

These results indicate that residents think land use planning includes nearly all of the items presented in our research. But, leaders were slightly more discriminating in their responses. Reasons for the differences are not possible from the survey. However, a combination of several factors are probably involved. Perhaps residents just are not as familiar with the techniques and powers contained in land use plans. This could lead them to be unsure of how they will be personally affected by a plan. Therefore, they may become distrustful of planning and fear

that some of their freedom or control will be restricted. For whatever reasons, residents perceive land use planning as imposing a significant amount of control. Leaders, on the other hand, appear to have more knowledge about land use planning and to have been more selective in the statements to which they agreed.

Opinions Regarding Land Use Planning

Since there were few differences between residents and leaders in knowledge about the kinds of activities involved in land use planning, personal opinions about the concept were sought. In order to determine the general feelings and attitudes, respondents were queried about their opinions on land use planning. Results show there was a great deal of agreement in opinions. Only two items revealed statistically significant differences (as measured by T-tests comparisons). Leaders were more likely to agree that land use planning is government interference in private affairs and that land use planning is necessary in developing areas around cities. Even though they did not reach levels of statistical significance, other differences in opinion were found. For example, leaders were more likely to think land use planning was necessary to keep agricultural land in agriculture, that land use planning was worth what it costs, to see the necessity of land use planning to make sure an area has orderly growth, to agree planning puts too many restrictions on farmers, and to view land use planning as mostly rules and regulations.

Overall, the responses given by leaders and residents of Sumter County indicated little difference in regard to land use planning. Based on these findings, it might be concluded that there is a high degree of agreement within the county and that the leaders and residents hold similar opinions. Therefore, we might predict that a land use plan that is acceptable to the leaders would have a good chance of being accepted by residents of the county.

Opinions Regarding Controls and Regulations

This section deals with attitudes toward the general concept of control and regulation. All respondents in the study were queried regardless of whether they had heard of land use planning. Twenty-two statements were presented for respondents to indicate their agreement or disagreement. T-tests revealed that on nine items responses were significantly different between leaders and residents.

Survey results were somewhat inconsistent. In some cases residents emphasized the rights of private ownership. For example, residents disagree that a landowner should be forced to sell his land if it is needed for public roads, buildings, etc. Consistent with this, citizens were more likely than leaders to agree that there are too many regulations as to how a person may use his land and that regulations should not prevent the landowner from doing what he pleases with his land. Residents were also more likely to agree that the people have better judgement about how land should be used than does the government. All of these items suggest residents are more concerned about rights of private ownership of land

over public rights, while leaders are somewhat more concerned about the latter.

However, the more specific issues suggest a greater concern among residents toward public rights. They were more likely than leaders to agree that clearing of land should be regulated where there is danger of erosion, that new regulations are needed or we will have serious problems of pollution (unclear air and water), and that good agricultural land should be zoned to prevent its being used for housing or other developments. Residents agreed more often that hunter's and sportsmen's rights and interests should be protected more than they have been and that new programs are needed to better control the use of farmland.

It appeared residents are against controls and regulations in general, but will often respond positively to controls regarding the environment, natural resources, and agricultural land problems. When viewed in abstract terms resident were more likely than leaders to choose private property rights over public rights. However, residents were not consistent in maintaining this position when specific issues were considered, such as protecting agricultural land or compelling private landowners to conserve.

RELATION OF PERSONAL CHARACTERISTICS TO RESPONSES

If public attitudes have an impact on the making of public policy, then it is necessary to know not only those attitudes, but also what affects them in order to develop workable public policies. Decisions, even though made by community leaders, must be to some extent representative of the feelings and wishes of community residents or at least acceptable to them. But the attitudes of the public toward public issues vary greatly and there are a multitude of factors that influence those attitudes. Some of these factors are socio-economic characteristics. However, there are also situational variables that comprise a vast array of different experiences and situations that one confronts in his day-to-day life and over the course of his life. Attitudes are formulated by an interplay of both types of factors--personal and situational.

Knowing significant factors that are associated with a tendency to support public policies (in particular, land use planning) will provide policymakers with a better understanding of how their policy decisions will be received and will provide valuable information enabling them to implement decisions that will be effective in the community. Additionally, it may serve to guide decision-makers so that many potential problems may be averted or solved before decisions are announced.

Personal Characteristics Effect on Environmental and Growth Concern

The first area of concern in Sumter County was environmental and growth problems. Among the items constituting this concern were: soil erosion, loss of natural areas and forests, loss of farmland to city growth and highways, loss of farm and wildlife, and clear cutting of

timber. Thus environmental concern was represented as a composite ratings score from these five items which factored together and were statistically correlated. Since residents considered environmental and growth items as local problems, we might expect them to be supportive toward land use planning as a manner in which to deal with these problems.

However, the research revealed only three personal or situational characteristics that influence environmental concern. The migratory status of residents was influential with individuals who were born in South Carolina, but who moved away and later returned to the state, being more concerned about environmental problems. Two other important factors were the ownership of land and sex. Concern for the environment was supported by individuals who did not own land and by females rather than males. Thus, many of the personal and situational characteristics that were expected to be influential were not instrumental in Sumter County. Considering the low explanatory statistic (R^2) of the model, it is suggested that characteristics associated with environmental concern are difficult to measure or that other characteristics, not collected in this research, are important determinants.

Personal Characteristics Effect on Concern About Farmland

Regression analysis was used to determine the associations between concern about farmland and personal characteristics of respondents. Concern about farmland was derived from three opinions items on which responses factored highly and were statistically correlated. These items were: (1) the use of agricultural land for housing, highways, etc., has become a serious problem, (2) good agricultural land should be zoned to prevent its being used for housing or other developments, and (3) new programs are needed to better control the use of farmland. Responses to these items were agree, disagree, or neutral.

The most important personal characteristics affecting concern about farmland in Sumter County were ownership of business land and race. People who owned land used for business purposes, such as rental housing, industry or business, were less concerned about farmland than those who owned land for agricultural or residential purposes, and blacks were more concerned than whites. The explanatory statistic (R^2) is too low for concluding that these two characteristics explain the variance in concern about farmland. However, it can be stated that ownership of business land and race are the most important measures included in this analysis.

Personal Characteristics Effect on Support for Spending More for Public Land

Due to the uncertain economic times during which this research was conducted, little support for spending money to acquire public lands was expected. Three items were used to measure concern with spending more money for public lands. Specifically, these were: (1) the State of South Carolina should spend more money to save scenic areas in the state, (2) public spending and regulations are needed so that more people will have parks and playgrounds to use, and (3) the state of South Carolina

should spend more money to preserve historical and archeological sites.

The two independent variables having the strongest effect on support for spending more for public lands were political involvement and race. Higher political involvement contributed to higher support, and whites offered more support than blacks. Again, the explanatory statistic (R^2) is so low that it is likely some important variables were not included in the model. Political involvement and race contribute to, but do not explain, the variance in support for spending more for public lands.

Personal Characteristics Effect on Favorability Toward Land Use Planning

Certain people for whatever reasons regard land use planning more favorably than others. Knowing personal characteristics of those favorably inclined will be of use to local decision-makers. Three items were concerned with favorability toward land use planning. These were: (1) are you in favor of land use planning, (2) a landowner should be forced to sell his land if it is needed for public roads, buildings, etc., and (3) regulations should not prevent the landowner from doing what he pleases with his land.

A stepwise regression analysis revealed that people in professional and technical occupations favored land use planning less than other occupations. This is consistent with previous findings that as income increases favorability toward land use planning decreases. Individuals holding professional/technical jobs generally have higher incomes than other workers. Also high organizational involvement was related to favorability toward land use planning. This is consistent with the idea that those involved in local and community affairs have greater access to knowledge about public issues and are more likely to support issues for the public good. However, the low explanatory statistic (R^2) for the model indicates that although occupation and organizational involvement effect favorability toward land use planning in Sumter County they do not explain variation in it.

Personal Characteristics Effect on Having Heard of Land Use Planning

To be effective, public policies, like land use planning, need to be supported by public opinion. In order to determine whether residents of Sumter County would support land use planning, it was necessary to establish their level of awareness of the concept. As was shown earlier in this paper, very few residents (19.7%) had heard of land use planning. Therefore, we would not expect much support among residents, but among leaders where almost all (97.2%) were familiar with the concept, we would expect much greater support.

To find out what accounts for the variation in awareness of land use planning, a regression analysis was computed relating personal and situational characteristics to awareness. Four factors were found to be significantly related to awareness of land use planning in Sumter County.

Awareness was greater among individuals who were politically and organizationally involved in the community, among those with higher levels of education, and among whites. These are all consistent with previous findings of other studies relating personal characteristics to attitudes toward land use planning.

Even though the R^2 for this model was higher than for any other dependent variable, it was still quite low. Thus, it can not be suggested that these variables explain the variation in awareness of land use planning. But, logically, these variables are critical to any public awareness program.

SUMMARY

Within Sumter County, South Carolina it was found that residents were less aware of land use planning than were leaders. Four personal characteristics were significantly related to this awareness. Those who were politically and organizationally involved, possessed more education, and where white tended to be more aware of land use planning concepts. Considering personal opinions about land use planning, little difference between residents and leaders was found. While leaders were more likely to see land use planning as government interference in private affairs, they were also more likely to view it as necessary in developing areas around cities. When exploring personal characteristics it was found that high organizational involvement and not being in a profession/technical occupation were associated with favorability toward land use planning. While residents did not support controls and regulations in general, they did express support for control or regulation when specific issues were involved. For each of the specific concerns identified in Sumter County, various personal characteristics were significant. Environmental concern was supported by South Carolinians who moved away, but later returned to the state, by those who did not own land, and by females. Blacks, and those who owned land for agricultural or residential use, were most concerned about farmland. Support for spending money for public lands was found among whites and those with high political involvement.

Findings from the research in Sumter County are similar to findings from previous studies dealing with the topic. Leaders are more aware of the concepts, but this was expected since leaders are in positions to receive more relevant information on the topic. Little difference exists between leaders and residents concerning land use regulation. Even though the general public saw land use planning as containing a greater degree of control than leaders, they seemed to support such control in order to meet specific environmental and agricultural land problems. This lends credence to the generalization that individual values, norms, and the local situation affect attitudes and opinions regarding land use issues.

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SOCIAL IMPACT ASSESSMENT:
FOREST SERVICE NATURAL RESOURCE PLANNING IN THE SOUTH*

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SOCIAL IMPACT ASSESSMENT:

FOREST SERVICE NATURAL RESOURCE PLANNING IN THE SOUTH

Social impact assessment (SIA) is an emerging application of the social sciences to natural resource planning. The task of socioeconomic assessment in the U. S. Forest Service is to identify the kinds of social and economic changes that will be generated by land management alternatives. The intent is to help explain what happens to people as a result of the way in which the Forest Service manages its resources. People and their socioeconomic systems are resources that need to be understood by managers at least as well as physical and biological resources. This understanding should exist in the mind of the manager in contact with a given community so he can make recommendations to Regional management. This activity takes on greater importance when it is realized that it is only because of people that things are defined as resources in the first place; that biological and physical resources are harvested or managed; and that conflicts can develop over land management policies.

At the Regional level, the social consequences of forest problems are less visible than at the Forest level. Therefore, Regional concerns must be focused more on broad categories such as population shifts, quality-of-life-assessing variables, changing public perceptions of forest use, the impacts of forest use and mineral developments, and other forest-related socioeconomic activities.

The performance of a socioeconomic impact assessment consists of identifying proposed management actions and comparing them with baseline or prevailing conditions.

Any changes in social and economic consequences from the baseline data are defined as socioeconomic effects.

SIA has been "emerging" now for more than a decade without coming to any firm agreement on structure or method. This paper outlines the process used to accomplish the simple SIA included in the Forest Service's Region 8 (the Southern United States) draft Environmental Impact Statement (EIS) for the Regional Plan.

Background

The Forest Service, as an agency of USDA, operates under several legislative mandates regarding SIA. The National Environmental Policy Act (NEPA) of 1970 mandated the inclusion of data from the social sciences in forest plans. The Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 established the first accountability procedures. The RPA has since been amended and supplemented by the National Forest Management Act (NFMA) of 1976, the Cooperative Forestry Assistance Act (CFA) of 1978, and the Forest and Rangeland Renewable Resources Research Planning Act of 1978. When viewed as a whole, the provisions of all of these call for concerted planning from all three branches of the Forest Service. There are also links established between state and other federal plans and programs.

While all this legislation called for planning and assessment, few provisions were spelled out for the accomplishment of such. SIA is barely mentioned. The Forest Service is developing procedures and processes for accomplishing the necessary SIA's. The procedural manual for the process was to come out in mid-1982 and was to be part of the regular process manual series on Forest Service activity.

SIA in the Draft EIS

Since the draft EIS for the Regional (Region 8 - the Southern U.S.) Forest Management Plan was due before the SIA manual was ready, the authors devised and implemented a three-phase methodology to accomplish the necessary SIA*. Before describing the methodology, it is imperative to understand that the Regional Forest Management Plan is a document which deals with alternative standards and guidelines, not current policies. Any SIA methodology must address these alternatives in their various dimensions as they might impact upon the variables of the social environment. The scenarios of the alternatives and management-related research questions used in the SIA methodology are as follows:

Alternative Management Strategy A

Continued current Regional standards and guidelines to implement the RPA Program and where current standards and guidelines do not exist, establish those required by NFMA regulations. This alternative strategy approximates a no-action alternative, and as such, serves as a baseline for estimating changes or differences among the alternatives. The "no-action alternative" is designed to show what would happen if the Region made no change in current management direction to implement the RPA Program.

Alternative Management Strategy B

Implement the RPA Program by emphasizing expanded opportunities to improve employment and social well-being of the minority and economically disadvantaged through application of multiple-use resource management while striving to achieve other national and regional goals.

Alternative Management Strategy C

Implement the RPA Program by emphasizing the energy and cost efficient production of the forest and range resources directed toward meeting public needs and demands through application of multiple-use resource management while striving to achieve other national and regional goals.

*The authors express their appreciation to Dr. Hobson Bryan for his many constructive comments during this process.

Alternative Management Strategy D

Implement the RPA Program by emphasizing the protection and enhancement of forest and range environmental qualities which will provide an enduring supply of outdoor experiences and other beneficial uses through application of multiple-use resource management while striving to achieve national and regional goals.

RESEARCH QUESTIONS

1. Timber B

In your best opinion, how would timber cut increases of 20-25 percent on a Ranger District effect the employment of economically disadvantaged and minority people living on and around a Ranger District? What effect would this action have on income, occupational variation, pollution, recreation, housing, and public reaction?

2. Timber C

What would be the effects of these same variables if timber cuts on the District were intended mainly for economic efficiency (cost vs. benefits)?

3. Energy B

How would increases in the use of energy sources by 20-25 percent effect these variables as they relate to disadvantaged and minority people living on or around a District?

4. Energy C

What would be the effects on these variables if energy sources were used mainly for economic efficiency?

5. Range C

What would be the effect of these variables if range resources were being managed mainly for economic efficiency?

6. Recreation B

How would increases in Recreation facilities of 20-25 percent effect these variables with regard to disadvantaged and minority people living on and around a District?

7. Recreation C

What would be the effect on these variables if recreation resources were being managed for the purpose of economic efficiency?

8. Lands B

How would increases in land acquisition effect these variables as they relate to disadvantaged and minority people living on and around the District?

9. Lands C

What would be the effects on these variables if land acquisition were being conducted mainly for the purpose of economic efficiency?

10. Lands D

What effect would land acquisition for the protection and enhancement of the forest and range environmental qualities to improve outdoor experiences have on these variables?

11. Visual D

What effect would visual improvements associated with the enhancement of forest and range environmental quality for improving outdoor experiences have on these variables?

Methodology

The SIA methodology was divided into three major phases, each of which used similar methods to generate data from three separate expertise groups. The three groups were: (1) members of the Forest Service interdisciplinary Land Use Planning Team (N=7), (2) a random sample of Forest Service District Rangers for this region (N=26), and (3) an interested group of rural sociologists co-opted at the 1981 SAAS meetings (N=10). Each of three groups was asked to provide an indication of possible social impacts upon selected social "variables" at the local level vis-a-vis the 11 given research questions. There were seven variables of importance for which projected impacts were needed to accomplish the SIA. These were: employment, income, occupational structure, pollution, recreation, housing, and public reaction. Our respondent groups were obliged to provide a directional component for possible impact (positive--negative) and an intensity component (none, very little, some, a lot).

Summary tables were prepared on the responses from the three groups. Table 1 shows the results of the three surveys after averaging all the responses for each group. Additionally, this table shows the combined average impact of each alternative on each variable (the numbers in parentheses) as well as the "average" overall impact of each resource management alternative. The cell averages were computed using the

Table 1.—Possible Impacts of Alternatives on Social Variables, Summary Table.

		EMP	INC	OCC	POLLUT	REC	HOUS	PUB REACT
TIM B .705	P*	2.14	1.86	1.57	-.71	-.29	1.00	-.43
	R*	2.08	1.96	.92	-1.00	0.00	1.04	-.50
	S*	1.60 (.194)	1.80 (1.87)	1.10 (1.20)	.40 (-.44)	0.00 (-.10)	.80 (.95)	-.70 (-.54)
TIM C .21	P	1.14	1.29	.43	-.86	.14	.57	.86
	R	-.65	-.15	.31	.27	.46	.08	-1.70
	S	.50 (.33)	.30 (.48)	.90 (.55)	.30 (-.10)	-.80 (-.07)	.60 (.42)	.40 (-.15)
ENG B .46	P	1.57	1.57	1.29	-1.86	-1.57	.43	-1.14
	R	1.58	.77	1.19	-.69	.31	.42	.96
	S	1.00 (1.38)	1.10 (1.15)	.50 (.99)	1.50 (-.35)	-.10 (-.45)	.10 (.32)	.80 (.21)
ENG C .17	P	.57	0.00	1.29	-2.00	-1.57	.57	-1.14
	R	.12	.27	-.08	.08	.35	.08	-1.73
	S	1.60 (.76)	1.90 (.72)	1.20 (.80)	.40 (-.51)	0.00 (-.07)	.10 (.25)	.60 (-.76)
RNG C -.08	P	0.00	-.71	0.00	-.71	.57	-.14	-.43
	R	-.23	-.23	-.15	-.12	0.00	-.04	-.95
	S	.70 (.16)	-.10 (-.35)	.70 (.18)	.20 (-.21)	.10 (.22)	.20 (.01)	-.30 (-.56)
REC B 1.05	P	1.29	1.86	2.00	-1.14	2.00	.71	-.14
	R	1.19	1.12	.96	-.93	1.08	.35	1.50
	S	1.60 (1.36)	1.90 (1.63)	1.40 (1.45)	.60 (-.49)	1.50 (1.53)	1.40 (.82)	1.80 (1.05)
REC C -.10	P	.14	.14	.29	-.43	0.00	0.00	.43
	R	-.27	-.27	-.19	.46	.35	.08	-2.35
	S	-.20 (-.11)	1.20 (.36)	-.40 (-.10)	-.10 (-.02)	-.40 (-.02)	0.00 (.03)	-.60 (-.84)
LND B .31	P	.29	.86	-.71	1.00	2.00	.86	-1.71
	R	.54	.46	.58	.54	.81	.04	-1.88
	S	1.10 (.64)	1.10 (.81)	.60 (.16)	.50 (.68)	1.40 (1.40)	-.50 (.13)	-1.30 (-1.63)
LND C -.02	P	-.14	.43	-.57	.57	0.00	-0.00	-2.00
	R	-.12	-.27	.19	.19	.16	.42	-.69
	S	-.20 (-.15)	.30 (.15)	.50 (.04)	.60 (.45)	1.10 (.42)	.40 (.27)	-1.30 (-1.33)
LND D .22	P	-1.00	0.00	-.57	.43	2.00	0.00	-1.14
	R	1.00	.96	.58	1.27	1.77	.31	-.77
	S	.30 (-.10)	-.40 (.19)	.10 (.04)	-.20 (.50)	2.30 (2.02)	.20 (.17)	-2.00 (-1.30)
VIS D .61	P	-.71	-.86	-.46	1.29	1.86	-.57	2.00
	R	1.00	1.00	.73	1.08	1.81	.31	1.31
	S	.40 (.23)	.20 (.11)	-.50 (-.08)	.60 (.99)	1.80 (1.82)	.10 (-.05)	.50 (1.27)

* P - Planners, R - Rangers, S - Sociologists

three group responses from that cell rather than an average of all individual responses. This was done so that expertise group-opinions would take precedence over the total responses which would have reflected a bias toward District Rangers--Rangers having by far the largest N of the three groups. As can be seen by an examination of Table 1, there was a fair divergence of opinion as to potential impacts among groups for many of the cells. This perhaps may be explained best as a classic case of "the blind man and the elephant." Each group that brings its own expertise and world view to the problem would, of course, express potential impacts based on its own perception. Thus, we have averaging which tends to temper extremities. As a result we see fewer impact expressions pushing toward 3's (in either direction). Averaging the averages compounds this problem.

We think it would be safe to say that the scale of possible impacts demonstrated here is a compressed one from that with which we originally started. In other words, when the beginning scale was expressed in terms of 1 (very little), 2 (some), and 3 (a lot), it seems very hard to come to terms with a 1,2 scale (after averaging has occurred) under the original stipulations. We therefore tender the idea that a score of 1 on the compressed scale might indicate some possible impact with scores ranging toward 2 indicating substantial possible impact. Admittedly, there are quite a few qualifiers, and taken in concert with our small total number of respondents (43), even classed as experts, detailed answers to specific problems posed by today's land managers would be hard to justify. However, we do believe that this information does yield some generalized direction and intensity on possible

impacts of decision alternatives. This may be especially true regarding the broad goals of each alternative.

As can be seen by looking at those alternatives labeled "B", a concern toward the effects of land management decisions on the disadvantaged manifests itself. The stated goal of this alternative is to improve low income and minority persons' stable employment and net available income. Alternative C is concerned mainly with economic efficiency. The goal statement reads, "conserve energy use, facilitate appropriate development of energy resources and reduce government spending relative to market and non-market goods and services provided." Alternative D of the Regional Plan is directed at environmental quality and calls for improvement to the quality and benefits of the natural environment.

A reaggregation of the data presented in Table 1 can give us an idea of how possible impacts on the seven social variables relate to the three management alternatives examined. It has undoubtedly been noticed that each of the alternatives dealt with here has been followed by either a B, C or D. These are the possible futures of Forest Service land management under consideration. Alternative A has not been dealt with like the others because it concerns the "no change" policy. At this time, present directions and policies do not fall under the mandate of a required EIS or SIA. Therefore, they are outside the present scope of this study. Table 2 is provided to show the resulting impact averages.

We are certain that the planners will take some comfort from the indications in the above table. In terms of an average impact for any of the alternatives, there were no speculations for an overall negative

Table 2.--Possible Impacts on Social Variables by the Three Land
Management Alternatives.

Alternatives Variables	B. Effects on Disadvantaged	C. Economic Efficiency	D. Environmental Quality
Employment	1.33	.21	.07
Income	1.37	.27	.15
Occupational Structure	.95	.29	- .02
Pollution	- .15	- .08	.75
Recreation	.60	.10	1.92
Housing	.56	.20	.06
Public Reaction	- .64	- .73	- .02
Average Impact	.63	.04	.42

influence. Alternatives B and D appear to have the relative advantage over an alternative of economic efficiency. However, even Alternative C has no overall negative probable impact.

One interesting aspect of this table (and Table 1 to a great extent) regards the impact of all the alternatives vis-a-vis the public reaction variable. These projected impacts were all thought to be in the negative direction. Further, possible impacts upon public reaction as set forth by all three groups surveyed tended toward extremes in both directions. Positive directions were evident in the logical, to-be-expected alternatives, but most (8 of 11) were toward extremes at the negative end of the scale. Several questions, but few answers suggest themselves of this data. Are we cynical of the public? Do we feel that no matter what we may do, the public is going to put up a fuss? Does this indicate that, even as three diverse groups as this, we are responsive to public outcry? Perhaps all are equally valid as answers.

The last thing this paper should do is to try to lay out policy decisions for the Forest Service. The purpose of this paper is not to state what policy is, but rather establish what the impacts may be on local people as a result of possible policy decisions. This data will be incorporated into the Forest Service's regional planning process to provide a small piece of information to be fitted within the total scope of that process. In these times of budgetary restraints, the point may very well be moot.

Hopefully, what we have presented here can be used by our land managers (no matter which alternative is implemented). The range of possible impacts resulting from a decision to use one way of forest management over another should give decisionmakers an idea of what to expect in the localities surrounding a National Forest.

STATUS OF LANDHOLDERS IN TEXAS:
IS THERE CAUSE FOR SERIOUS Concern?

By

Alfred L. Parks, Mary Hawkins and Karen P. Thomas*

INTRODUCTION

The question of who owns America's land is becoming increasingly more important in light of present land use issues (Wunderlick, Cotner, Boxley). Dating back to the early settlement of this country, the federal government encouraged wide spread settlement with as little red tape as possible. Essentially, settlers were free to settle on the land and use it for whatever use they wished.

In recent years, however, this philosophy has been placed under increasing pressure, as conflicts continue to mount in our more complex society among the various interest groups. As the population continues to increase, the alternative uses of land also increases. Current issues over environmental quality, land use planning, food production capacity, and foreign ownership about the way decisions made on these issues affect society (Boxley).

As a policy issue, landownership rather quickly reduces to a problem of facts (Wunderlick). The questions in this case are: who owns what, where, how much, and to what use is made of the land? Published results from a 1978 landownership survey, indicated that ownership of U.S. land was concentrated in the hands of a few; the top 5 percent of all landowners own 75 percent of the land while the bottom 78 percent of all landowners own 3 percent of the land (Lewis, J.).

Objectives and Scope of the Study

This paper summarizes some selected ownership characteristics of landownership in Texas. However, this paper does not focus on any single category of ownership. The primary emphasis of this paper is on the relationship between landownership and nine factors: occupation of owners, type of owners, race, age, sex, education, residence, and time and method of acquisition.

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These factors comprise the basic characteristics of **landowners** that are critical to land use policy makers in understanding the behavior of landowners.

Landownership in Perspective

The United States has a land area of some 2.3 billion acres. The largest single owner of this land is the federal government, which owns 34 percent of the land. Private individuals owns some 58 percent of the total. State and local governments own 6 percent and the remaining 2 percent is owned by Indian tribes and individuals (figure 1).

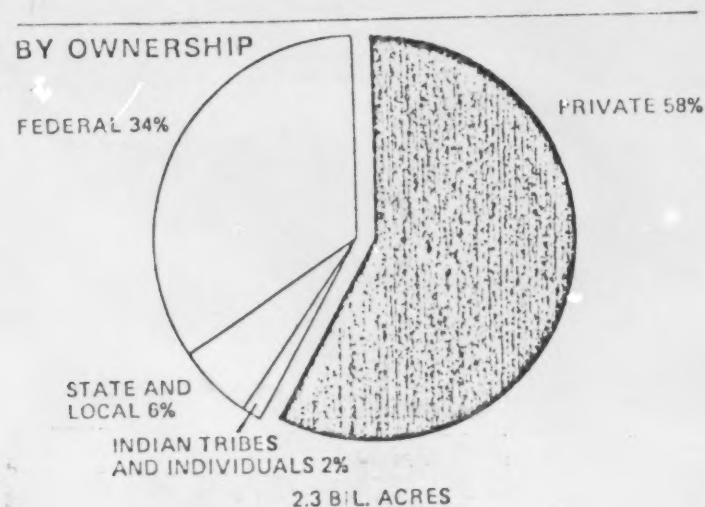


Figure 1: CLASSES OF U.S. LAND, 1974

Privately owned land is the essence of this paper. Private ownership of land in the U.S. is the basis of our property system. Land settlement and distribution in the U.S. is essentially an extension, with modifications, of the systems that the founding fathers brought to this country during the early settlement days. The early settlers were faced with a vast amount of land that needed to be settled. Thus was established a philosophy of land settlement that still exist today.

Dating back to the early settlement of land in this country, there are two basic concerns or objectives about landownership: (1) that agricultural land should be held in family-sized units by those who tilled the soil, and (2) that individuals, whether farm operators or not, should be free to acquire as much or as little land as their resources permit.

The promotion of the two conflicting objectives of landownership is the source of major concern today in land use planning. Historically, this was not much a problem since the available land per capita was very high.

The vastness of our land supply at that time lead to the almost free distribution of land. Inherent in the ownership of land was the issue of "property rights" and the aspect of the distribution of wealth. Property rights, as originally regarded, essentially means that an individual (owner) has the right to possess, occupy, hold, transfer, buy, sell, mortgage, lease, subdivide, consolidate, use, exploit, conserve, improve, bequeath and give (Lewis, p. 2). Given these almost unrestricted rights to land is there any wonder then that there is so much conflict regarding land use.

Why Study Landownership?

The question of why study landownership can be answered from a number of perspectives. A few of the basic concerns are about foreign ownership (De Brael, USDA), farmland ownership and preservation (Ilesher, Immon), and land use policy regarding agriculture (Cotner, Frey, McDonald, Wunderlick). Perhaps the biggest question, is to determine or answer the question of who owns the land (Lewis, D., USDA)? Prior to 1978 very little information was available on landownership.

Facts about landownership are important because it is the owner who ultimately decide how the land will be used. Policies that affect the land also affect those who own it, pay taxes on it, and earn income from it (Lewis, J.). The land and how its various owners use or abuse it is vitally important to the American public and decision-makers in government (Lewis, D.). As more and more people and institutions are involved in land decision-making, it become more vital than ever to know who will make decisions about land and who will bear the burden or reap the benefits of the decisions (Boxley).

It simply boils down to a question of land use policy. To develop an effective land policy, it is vital to answer the question of "who" in fact owns the land. As suggested by Lewis, who does not mean individual identification and public disclosure, but rather groups, types of owners, or classes of owners (measured by a variety of different characteristics) who hold short-term and long-term control of the land (Lewis, J.).

Survey Highlights

Occupation

Farmers comprise 38 percent of the owners and own 39 percent of the privately owned land in Texas (table 1). White collar workers own about 16 percent. Twelve percent of the owners did not list their occupation and 11 percent of the owners are retired. Blue collar workers own only

about 5 percent. Large estates or corporations own about 17 percent of the land. Ownership of land is also characterized by race. Almost 50 percent of the white (R_1) owners were farmers compared to 35 percent for blacks (R_2) and 56 percent for Hispanics (R_3). Thirty nine percent of the black landowners are retired compared to 14 percent of the whites and 18 percent of Hispanics.

Type of Owners

Forty percent of the landowners are sole proprietors followed by husband-wife combinations that comprise 25 percent (table 2). Another 14 percent of the landowners are family partnerships that own 15 percent. Forty-seven percent of the white landowners were sole proprietors compared to 65 percent of blacks and 67 percent of Hispanics. An overwhelming majority of all the owners falls in the three categories of sole proprietors, husband-wife or family partnership. Among the Hispanics, they are exclusively in this category. The distribution of acres owned is almost equally proportionate to the distribution of owners by owner type.

Age

A majority of the landowners are above the age of 45 (table 3). Owners under the age of 45 comprise 11 percent of the owners. About a fifth (21 percent) of the owners are between the age of 55 and 65. About 27 percent of the owners did not list their age. If the age of owners is compared by race it is shown that black owners tend to be older. There were no black landowners under the age of 45, whereas 39 percent of the black landowners are above 75 years old. Among the whites and Hispanics there is a wider distribution of landowners by age groups.

In terms of acres owned, the 45 and above age group own over 60 percent of the land. For black landowners, all owners are above the age of 45 years, with the exception of a 3 percent no response.

Sex

Sixty two percent of the owners indicated their sex as males, and 13 percent female. Some 25 percent did not list their sex. Males own 60 percent of the land compared to 14 percent for females. A break down by race show that over 81 percent of the white landowners are male and own 80 percent of the land. Eight three percent of the black landowners are male and they own 83 percent of the land owned by blacks (table 4).

Education

The proportion of owners and acres owned by educational level is almost identical (table 5). That is, the percentage of owners with a Jr High School education is almost equal to the percentage of acres owned by those with a Jr High School education. The proportion for the other levels of education is almost the same. An analysis of owners by race indicate a significant difference in the proportion of owners by educational level relative to acres owned. For whites the highest proportion of owners were college graduates (28 percent) who also owned the highest proportion (27 percent) of land. On the other hand, the highest proportion (39 percent) of black owners were those with Jr High or less education that also owned the highest proportion (24 percent) of the land.

Residence

About 60 percent of the landowners live in the county in which they own the land (table 6). Another 30 percent of the owners live out of the county but live in the state. A slightly higher proportion (78 percent) of blacks live in the county where they own the land than whites. Fifty seven percent of the acres owned is owned by those that live in the county (table 6). By racial comparison, 84 percent of the acres owned by blacks is owned by those that live in the county, and 66 percent of the acres owned by whites is owned by those that live in the county.

Method of Acquisition

Over 52 percent of the owners purchased the land that they own from a non-relative and 16 percent from relatives. Thirty two percent of the owners inherited the land that they own. In terms of acres of land owned, 45 percent of the land owned was purchased by the current owner from a non-relative and 11 percent from a relative. Twenty seven percent of the land was inherited (table 10).

Period of Acquisition

In general, there is a fairly wide distribution in the acquisition period of land dating back to 1940 (table 8). For whites, however, there is a higher proportion of owners that acquired land since 1960 than for blacks or Hispanics. A high proportion (36 percent) of the blacks acquired land before 1940, compared to a very low proportion (8 percent) since 1970.

Table 1 Distribution of Owners Acres Owned, All Land,
by Occupation and Ethnic Groups

Occupation	Ethnic Groups							
	G		R ₁		R ₂		R ₃	
	Owner Acres		Owner Acres		Owner Acres		Owner Acres	
	-Percent-							
Farmers	38.0	39.1	49.7	51.1	34.7	32.2	55.5	50.0
Retired	11.2	11.2	14.3	14.1	39.2	38.3	18.5	20.4
White Collar	16.9	16.1	22.7	21.5	8.7	6.6	7.4	17.2
Blue Collar	4.8	4.6	6.2	6.2	13.1	18.8	7.4	3.3
Miscellaneous	12.0	12.4	7.1	7.1	4.3	4.1	11.2	9.1
Corp Estates/Lge. Partnership	17.1	16.6	0	0	0	0	0	0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1978 ES S Landownership Survey.

Table 2 Distribution of Owners and Acres Owned, All Land, by
Owner Type and Ethnic Groups

Owner Type	Ethnic Groups							
	G		R ₁		R ₂		R ₃	
	Owner Acres		Owner Acres		Owner Acres		Owner Acres	
	-Percent-							
Sole Proprietor	40.3	40.2	46.8	46.1	65.2	59.7	66.7	58.1
Husband & Wife	25.4	23.8	32.2	30.4	8.7	11.0	11.1	13.8
Family Partnership	13.8	15.4	14.8	16.5	21.7	25.2	22.2	28.1
NonFamily Partnership	2.1	2.5	2.1	2.4	0	0	0	0
Family Corporation	3.1	4.1	1.3	1.6	0	0	0	0
Nonfamily Corporation	7.2	5.4	.2	.1	0	0	0	0
Miscellaneous	7.5	8.6	2.6	2.9	4.3	4.1	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1978 ES S Landownership Survey.

Table 3 Distribution of Owners and Acres Owned, All Land,
By Age of Landowner and by Ethnic Groups

Age of Landowners	Ethnic Groups							
	G		R ₁		R ₂		R ₃	
	Owner Acres		Owner Acres		Owner Acres		Owner Acres	
			-Percent-					
Under 25	0.4	0.4	.5	.5	0	0	0	0
24 - 29	1.1	0.9	1.5	1.4	0	0	0	0
30 - 34	2.0	2.0	2.6	2.6	0	0	0	1.6
35 - 39	3.3	3.4	4.4	4.3	0	0	3.7	14.0
40 - 44	4.5	4.5	5.9	6.0	0	0	11.1	11.2
45 - 49	5.8	5.6	7.7	7.6	8.7	13.7	3.7	2.0
50 - 54	9.2	9.3	12.4	12.6	4.4	4.9	3.7	8.6
55 - 59	10.7	10.9	14.2	14.5	4.4	5.7	22.2	17.2
60 - 64	10.2	9.1	13.5	12.2	13.0	10.4	11.1	7.2
65 - 69	8.9	9.1	11.9	12.1	13.0	12.9	7.4	10.2
70 - 74	7.3	7.0	9.5	9.4	13.0	11.2	11.1	8.0
75 Plus	10.1	10.4	12.9	13.4	39.1	38.4	18.6	20.0
No Response	26.7	27.4	3.2	3.4	4.4	2.8	0	0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1978 ESCS Landownership Survey.

Table 4 Distribution of Owners and Acres Owned, All Land, by
Sex and Ethnic Groups

Sex	Ethnic Groups							
	G		R ₁		R ₂		R ₃	
	Owner Acres		Owner Acres		Owner Acres		Owner Acres	
			-Percent-					
Male	61.9	60.0	81.4	80.0	82.6	83.0	63.0	61.0
Female	13.1	14.0	17.1	18.5	17.4	17.0	37.0	39.0
No Response	25.0	26.0	1.5	1.5	0	0	0	0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.00

Source: 1978 ESCS Landownership Survey.

Table 5 Distribution of Owners and Acres Owned, All Land, by Educational Level and Ethnic Groups

Educational Level	Ethnic Groups							
	G		R ₁		R ₂		R ₃	
	Owner Acres		Owner Acres		Owner Acres		Owner Acres	
	Percent-							
Jr. High School	8.4	7.8	10.6	10.0	39.1	33.5	33.0	25.4
Some High School	10.0	9.7	13.4	13.1	13.0	24.3	7.4	10.2
High School Grad.	15.6	14.1	21.0	19.0	8.7	6.0	11.2	14.7
Some College	13.9	13.9	18.4	18.7	8.7	5.0	18.6	18.7
College Grad.	20.8	20.2	27.6	26.9	13.1	13.8	11.2	13.3
No Response	31.3	34.3	9.0	12.3	17.4	17.4	18.6	17.7
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 7 Distribution of Owners and Acres Owned, All Land,
by Method of Acquisition and Ethnic Groups

Method	Ethnic Groups							
	G		R ₁		R ₂		R ₃	
	Owner Acres		Owner Acres		Owner Acres		Owner Acres	
			-Percent-					
Purchased								
non-relative	52.1	44.6	44.2	46.6	26.9	21.2	33.3	24.1
Relative	15.9	10.6	19.9	13.1	19.2	25.2	6.6	3.5
Inherited	30.9	27.3	33.6	27.3	38.7	34.2	53.3	67.2
Gift	4.6	3.2	4.1	3.4	3.8	1.8	0	0
Other	2.5	2.4	1.5	1.2	0	0	0	0
No Response	12.9	11.9	7.4	8.4	19.2	17.6	6.4	5.2
TOTAL*								

Source: 1978 ESCS Landownership Survey

*Totals do not equal 100 percent because many owners acquired land through more than one method.

Table 8 Distribution of Owners and Acres Owned, All Land, by
Period of Acquisition and Ethnic Groups

Period	Ethnic Groups							
	G		R ₁		R ₂		R ₃	
	Owner Acres		Owner Acres		Owner Acres		Owner Acres	
			-Percent-					
1970 - 1978	31.7	23.7	25.1	25.9	8.0	9.5	23.5	14.3
1960 - 1969	29.5	20.1	25.3	22.6	16.0	22.1	20.5	23.3
1950 - 1959	19.3	12.7	16.4	14.1	16.0	11.3	11.7	4.5
1940 -1949	16.4	11.5	13.8	13.4	1.2	12.8	26.4	22.2
Prior to 1940	19.6	19.2	12.3	15.7	36.0	35.4	14.7	33.1
No Response	13.5	12.8	6.8	8.3	12.0	8.9	2.9	2.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: 1978 ESCS Landownership Survey.

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RURAL SOCIOLOGY SECTION
SOUTHERN ASSOCIATION OF AGRICULTURAL SCIENTISTS
1982 BUSINESS MEETING MINUTES

The 1982 meeting of the Rural Sociology Section, SAAS was held at the Howard Johnson's Florida Center Hotel in Orlando, Florida, February 9, 1982. The business meeting for the section was called to order by President Wolf Frese. There were 17 members in attendance at the business session.

The minutes of the 1981 business meeting were reported and a motion made for the approval of the minutes by acclamation. Motion seconded with proviso that last year's unfinished business be brought to the floor. (Unfinished business mentioned--Proceedings, Sociological Abstracts, and SRSRC report.)

Program Chair Wimberley reported on this year's meeting attendance. There were 47 registrants, including 6 students. Financially speaking, 43 members paid for Proceedings (gross receipts = \$322.50). Section funds from 1981 transferred to the new officers amounted to a grand total of \$5.77.

The report of the nominations committee (Dunkelberger and Sollie) began with a reminder of the Section's policy of officer selection procedures. The slate of officers proposed by the committee for 1982-83 were as follows:

President	Gerald Wheelock
President-Elect	Ronald Wimberley
Program Chair	Richard Wetherill
Program Chair-Elect	Howard Ladewig

A motion was made to accept the slate of officers as constituted by the committee by acclamation. Seconded. Passed.

President Frese discussed with the group possible sites for the 1985 meeting. Suggestions were called for which could be conveyed to the SAAS leadership for consideration. Suggestions from the floor included: Charleston, Savannah, Myrtle Beach, New Orleans, Memphis, Birmingham, and Luckenbach, Texas. (Note: the 1985 SAAS meeting is now tentatively scheduled to be on the Mississippi Gulf Coast, at Biloxi.)

General discussions then took place on the old business mentioned above. Many suggestions were made relating to the viability of the Section. Topics of discussion included: ways to increase participation by students; active recruitment of Section membership through appointment of state Section representatives; role of technical committee groups and project groups; and others. Dunkelberger made a motion to request that the SRSRC have its annual meeting in conjunction with SAAS. Seconded. Passed unanimously. Wimberley made a motion that the Section should be made the rural sociologists' facilitator organization for all related special interest groups (e.g., SRSRC, SRDC, technical committees, etc.) on an invitational basis. Seconded. Passed unanimously. President Wheelock is directed to contact the leadership of all of these organizations to extend the invitation. This is to include those regional projects of the 1890 schools.

Wheelock made a motion that the Program Chair be directed to invite a poster session for the 1983 meeting in Atlanta. Seconded. Passed unanimously.

Voth made a motion to allow an invited paper session at next year's meeting on the topic of Critical Issues in Rural Sociology. Seconded. Passed.

Ohlendorf made a motion that a committee be constituted to explore all Section publications, including the Proceedings and Sociological Abstracts and procedures for both, with a report due at next year's meeting. Seconded. Passed unanimously. Wetherill made a motion that the President should head the above committee and staff it at his discretion. Seconded. Passed unanimously. The President was charged by the membership to explore the ways in which the Agricultural Economics Section handles their publications.

An expression of gratitude and a brisk round of applause was offered to departing President Frese commending him for a job well done during his term as Section President.

A motion for adjournment was made and seconded. The meeting was adjourned at 2:54 p.m.

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SEVENTY-NINTH ANNUAL CONVENTION

SOUTHERN ASSOCIATION OF AGRICULTURAL SCIENTISTS

Rural Sociology

RURAL SOCIOLOGY SECTION

Monday, 8:30-12:00 AM, Senate Room

THE SOCIOLOGY OF AGRICULTURE

Part I:

AGRICULTURAL STRUCTURE AND CHANGE

Chair/Discussion Leader: Quentin A.L. Jenkins, Louisiana State University.

Karen P. Thomas and Alfred L. Parks, Prairie View A&M University. "The Changing Profile of the Texas Agricultural Sector: Social and Economic Implications".

Alfred Stewart, Alcorn State University. "Farm Structural Changes in 14 Southwest Mississippi Counties"

William D. Heffernan, University of Missouri, and Quentin A.L. Jenkins, Louisiana State University. "Changes in Agriculture and Social Involvement in a Southern Rural Community During the 1970s".

L. Gail Bonnell, University of Georgia. "Exploring Barriers to the Entry of Women into Agricultural Production: The Case of the Independent Female Farmer/Farm Manager."

Discussion

Part II

PART-TIME FARMING

Chair/Discussion Leader: Ronald C. Wimberley, North Carolina State University.

Carlton R. Sollie, Mississippi State University. "Comparison of Bi-Vocational With Single Vocation Farmers"

Gwendolyn T. Lee, J. Martin Redfern, and Dewitt Jones, University of Arkansas at Pine Bluff. "Barriers Experienced by Low-Income Small Farm Operators Seeking Off-Farm Employment in Urban and Rural Labor Market Centers of East Central Arkansas."

L. Gail Bonnell and H. Max Miller, University of Georgia. "Factors Influencing Occupational Involvement: The Case of Limited-Income, Part-Time Farmers."

E. Yvonne Beauford and H. Max Miller, University of Georgia. "An Examination of Factors Affecting the Incomes of Part-Time Farmers: Implications for Change."

Ronald C. Wimberley, North Carolina State University. "Part-Time Farming and Structural Trends."

Discussion

Monday, 8:30-12:00 AM, Congress Room

THE SOCIOLOGY OF COMMUNITIES

Part I:

COMMUNITY ORGANIZATION

Chair/Discussion Leader: H. Max Miller, University of Georgia.

Rural Sociology

Roger L. Hecht, East Tennessee State University. "A Systems Model as a Theoretical Basis for Community Organization Analysis and Change"

Glenn C. McCann and Karin Stump, North Carolina State University. "Interorganizational Networks: A Case Study of the Triangle J Council of Governments and Johnston County."

Woong K. Cho, Alcorn State University. "Ethnicity vs. Poverty as a Dominant Determinant of Certain Attitudes, Values, and Beliefs."

Discussion

Part II

EFFECTS OF COMMUNITIES

Chair/Discussion Leader: Rusty Brooks, University of Georgia.

H. Max Miller, E. Evan Brown, and Rusty Brooks, University of Georgia. "Dimensions of Community and Location of Physician Manpower."

Diana M. Danforth, Michael K. Miller, and Donald E. Voth, University of Arkansas, Fayetteville. "On Going to See the Doctor: Health Seeking Behavior of Farm, Non-Farm, and Metropolitan Residents."

Letitia F. Toomer, Mack Nelson, and Kuang-hsing T. Lin, Fort Valley State College. Nathaniel B. Brown, Jr., and Mary A.M. Ray, Fort Valley State College. "Price Levels and Price Variability for Selected Types of Food Outlets Within and Among Markets."

Discussion

Part III

PROBLEMS OF GROWTH AND DEVELOPMENT

Chair/Discussion Leader: Gerald C. Wheelock, Alabama A&M University.

Robert E. Tournier, The College of Charleston. "Non-Metropolitan Growth and the Crisis in Services Delivery."

Gerald C. Wheelock and S. Gunde Rao, Alabama A&M University. "Dimensions of Industrialization, Growth, and Inequality."

James R. Finley, Battelle Institute, Columbus, Ohio. "Social and Economic Research and Development for Siting of Nuclear Waste Repositories."

Discussion

Monday, 1:30-5:00 PM, Senate Room

SOCIAL CHANGE

Part I

CHANGE THROUGH EXTENSION

Chair/Discussion Leader: Carlton R. Sollie, Mississippi State University.

Rural Sociology

Jegak Uli and Howard Ladewig, Texas A&M University. "Components of an Effective County Extension Advisory Committee."

W.R. Summerhill and C.L. Taylor, University of Florida. "Contextual Accountability for Change Programs: A Discrepancy Approach."

Discussion

Part II.

INFORMATION AND ADOPTION OF PRACTICES

Chair/Discussion Leader: Howard Ladewig, Texas A&M University.

Joseph Befecadu and Harry N. Archer, Alabama A&M University. "The Effectiveness of the Delivery of Agricultural Information as Perceived by Limited Resource Farmers in Alabama Black Belt Counties."

E. Yvonne Beauford, Rusty Brooks, Gail L. Bonnell, and H. Max Miller, University of Georgia. "Recommended Farm Practices and the Decision to Adopt: Differences Between Full-Time and Part-Time Farmers."

C.L. Taylor and S.R. Summerhill, University of Florida. "Applying Management Functions to Adoption Theory."

Lionel J. Beaulieu, University of Florida. "Factors Contributing to the Adoption of Energy Conservation Practices by Individuals: A Statewide Study."

Discussion

Part III.

ALTERNATE FORMS OF AGRICULTURE

Chair/Discussion Leader: E. Yvonne Beauford, University of Georgia.

James D. Miley, Kansas State University, and Gary S. Foster, Eastern Illinois University. "Organic Production and Organic Ideology: The Case of the KOP."

Clyde E. Chesney, North Carolina A&T University. "Problems and Opportunities for the Minority Woodland Owner in North Carolina."

Robert J. Lilly and Terrence Russell, Northern Kentucky University. "A Critical Analysis of an American Folk Art: The American Saddlebred Horse in the South."

Discussion

Monday, 1:30-5:00 PM, Congress Room

RURAL CRIME

Part I

RESEARCH ISSUES

Chair/Discussion Leader: Keith A. Carter, University of Florida.

Rural Sociology

William B. Bankston and Quentin A.L. Jenkins, Louisiana State University. "The Development of Research on Rural Crime in the South."

Joseph F. Donnermeyer, Ohio State University. "Rural Crime Research: An Overview of Victimization and Offender Studies."

Keith A. Carter and Lionel J. Beaulieu, University of Florida. "Trends in Rural Crime in Florida, 1970-1980."

Brady J. Deaton and Joseph H. Havlicek, Virginia Polytechnic Institute and State University. "The Implications of Industrial Growth for Police Services and Rural Crime."

Ted L. Napier, Douglas C. Bachtel, and Michael V. Carter, Ohio State University. "Factors Associated with Frequency of Drug Use in Rural Georgia."

Respondent: Matthew T. Zingraff, North Carolina State University.

Discussion

Part II.

PREVENTION STRATEGIES

Chair/Discussion Leader: Douglas McAlister, Virginia Polytechnic Institute and State University.

Joseph F. Donnermeyer, Ohio State University. "Crime Prevention for Rural Areas: With Special Reference to Programs for State Cooperative Extension Sources."

Michael A. Davis, North Carolina State University. "4-H Crime Prevention Program."

Discussion

Tuesday, 8:15-10:30 AM, Senate Room

DEMOGRAPHIC CHANGES:

MIGRATION, DISTRIBUTION, AND AGING

Chair/Discussion Leader: Gladys Bowles, Bowles Demographic Research, Athens, Georgia.

Mohamed El-Attar and Srinivasa Murty Komanduri, Mississippi State University. "Regional Migration Differentials in Mississippi: 1950-1970."

Frank M. Howell, Texas Christian University, and Wolfgang Frese, Mississippi State University. "The Transmission of Residence: A Longitudinal Analysis."

Edward L. McLean, Clemson University. "Distribution of U.S. Population, 1960-1980: Axioms and Inquiries."

Dinker I. Patel, Kentucky State University. "Kentucky's Population in 1980 and Beyond."

Lina R. Godfrey and Jerald M. Parker, University of Arkansas at Pine Bluff. "Assessment of the Pre-Retirement and Post-Retirement Activities of Residents in Jefferson County Arkansas."

Discussion

Rural Sociology

Tuesday, 8:15-10:30 AM, Congress Room

EDUCATION, ASPIRATIONS, AND EMPLOYMENT

Chair/Discussion Leader: George W. Ohlendorf, Louisiana State University.

George W. Ohlendorf, Louisiana State University. "Transition to Adulthood: Definition and Attainment of Life Goals by Louisiana Rural Youth."

Virginia McCarter and Wolfgang Frese, Mississippi State University. "The Affects of Two Generations of Status Attainments on Educational Aspirations for Offsprings."

Judi K. Eggers and John E. Dunkelberger, Auburn University. "Completing College and the Quality of Employment: A Look at the Costs of Dropping Out."

Theodore D. Fuller and Donald J. Shoemaker, Virginia Polytechnic Institute and State University. "A Comparative Analysis of Job Satisfaction Among Ecologically-Oriented Occupational Groups."

Vickie Saunders, Clemson University. "Present and Future Supply and Demand of Home Economics Instructors in Higher Education."

Discussion

Tuesday Morning
Sheraton Hotel, Orange Room

11:00 A.M. - General Session

Tuesday Afternoon
Senate Room

1:15-3:00 P.M. - Presidential Session and Business Meeting. Wolfgang Frese, President; Gerald C. Wheelock, President-Elect; Ronald C. Wimberley, Program Chair; G. Richard Wetherill, Program Chair-Elect.

Tuesday Afternoon
Senate Room

3:00-5:30 P.M. - Panel Session: The University as a Resource System for Public Needs. Chair/Discussion Leader: Carlton R. Sollie, Mississippi State University; Lionel Beaulieu, University of Florida; William W. Linder, Mississippi State University; Joseph J. Molnar, Auburn University.

Tuesday Afternoon
Congress Room

3:00-5:30 P.M. - Land and Farm Resources. Part I. Land Use and Planning. Chair/Discussion Leader: G. Richard Wetherill, Southern Forest Experiment Station, Starkville.

Penny W. Stover, Robert E. Mullen, and Edward L. McLean, Clemson University. "Attitudes Toward Ag-

Rural Sociology

ricultural Land Use Regulation: An Empirical Contribution."

Donald E. Voth, Michael K. Miller, and Diana M. Danforth, University of Arkansas, Fayetteville. "The Representativeness of Local Leaders: Attitudes About Land Use."

G. Richard Wetherill, Southern Forest Experiment Station, Starkville, and Jim Bell, U.S. Forest Service, Atlanta. "Social Impact Assessment: Forest Service Natural Resource Planning in the South."

Discussion

Part II. Farm Land, Farm Water, and Farm Sales. Chair/Discussion Leader: Alfred Stewart, Alcorn State University.

Wayne A. White, Kansas State University. "Making Decisions About Groundwater: Ecological versus Economic Considerations."

Alfred L. Parks, Mary Hawkins, and Karen P. Thomas, Prairie View A&M University. "Status of Landholders in Texas: Is There Cause for Serious Concern?"

Alfred Stewart and Linda Smith Ragster, Alcorn State University. "Socio-Economic Status as It Relates to Gross Sales and Net Returns of Farmers in Southwest Mississippi."

Discussion

Wednesday Morning
Senate and Congress Room

8:30-12:00 Noon - Open Sessions for Research or Special Discussion Groups.

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OPERATIONS PROCEDURE FOR THE RURAL SOCIOLOGY SECTION
SOUTHERN ASSOCIATION OF AGRICULTURAL SCIENTISTS (SASS)¹

I. SECTION OFFICERS

A. The officers whose term of office are one year:

- (1) President
- (2) President Elect and Treasurer
- (3) Program Chair
- (4) Program Chair Elect

II. NOMINATING COMMITTEE

- A. At each annual Rural Sociology Section, SAAS, meeting a nominating committee shall be appointed by the President. This committee shall present candidates for the section officers to the Rural Social Section members in attendance. Care should be exercised to insure the rotation of office holders among section members and representative institutions, agencies, and organizations.

III. ELEVATION OF OFFICERS

- A. Elevation of officers is customarily from Program Chair Elect to Program Chair, from Program Chair to President Elect and Treasurer, and from President Elect and Treasurer to President.

IV. FILLING A VACANCY

- A. If the President resigns, the President-Elect and Treasurer is elevated to the position of President. The newly designated President will then request the institution, agency, or organization represented by the former President to name an interim replacement for the President Elect and Treasurer office.
- B. If any other officer resigns, the President shall request the institution, agency, or organization represented by the former officer to name an interim replacement for the given office.

¹Reprinted from Rural Sociology in the South: 1978.

- C. In the event an institution, agency, or organization either declines or is unable to name an interim replacement for any vacancy, the President will appoint an interim replacement.

V. RESPONSIBILITIES OF RURAL SOCIOLOGY OFFICERS

- A. The duty of the President is to transact the business of the section and to conduct the annual meeting of the section.
- B. The duty of the President Elect and Treasurer is to act for the President when necessary.
- C. The duties of the Program Chair are to develop a program for the annual meeting; to collect, bind, and distribute the papers presented at the annual meeting and serve as custodian of the records of the section during each given term of office. At the termination of each term, the section records are to be transferred to the new Program Chair.
- D. The duty of the Program Chair Elect is to act for the Program Chair when necessary.
- E. During any given year, if the position of Program Chair is not filled for any reason, the President will be responsible for developing a program for the annual meeting. If a President does develop a program for a given annual meeting, the President may, at that annual meeting, instruct the membership to designate another individual to be responsible for collecting, binding, and distributing the section PROCEEDINGS.

VI. PROCEEDINGS

- A. Each individual submitting a paper title and abstract to the Program Chair prior to the deadline, whose paper title appears on the given annual meeting program, and who delivers the paper at the given annual meeting, shall have the opportunity to prepare multiple copies of that paper for the Rural Sociology Section PROCEEDINGS.
- B. The Program Chair shall distribute, to these individuals, the guidelines for preparation of manuscripts, including the number of copies, for inclusion in the PROCEEDINGS. The number of copies required for binding may be designated by the section officers.

VII. DISTRIBUTION OF PROCEEDINGS

- A. The basic method of distributing copies of the PROCEEDINGS to section members is specified in section VIII of this OPERATIONS statement.
- B. In addition to the list specified in Section VIII, copies of the PROCEEDINGS shall be distributed to:
 - (1) Appropriate administrative officers of institutions represented by Section members. This includes all Land-Grant institutions in the South.
 - (2) Representatives of appropriate agencies and organizations. This includes the United States Department of Agriculture and Farm Foundation.
 - (3) Appropriate libraries, clearinghouses, and official social science depositories.

VIII. RURAL SOCIOLOGY SECTION REGISTRATION FEES AND TREASURY

- A. A \$7.50 registration fee shall be collected from Rural Sociology registrants at Southern Association of Agricultural Scientists annual meeting registration. Full-time students will not be required to pay the \$7.50.
- B. The names obtained from this registration shall comprise the basic mailing list for receipt of the PROCEEDINGS.
- C. The funds collected from the registration shall be the responsibility of the President Elect for the year following each term of office; e.g., the 1978-1979 President-Elect shall be responsible for the funds, 1979-1980.
- D. Following each annual meeting, and after the PROCEEDINGS are compiled, the out-going President-Elect shall reimburse the institution, agency, or organization in which the out-going Program Chair is employed, for the cost of materials to bind the PROCEEDINGS. Any excess funds shall be considered a Rural Sociology Section Treasury.

*Approved by the Rural Sociology Section membership at the 1978 annual meeting.

BRIEF SECTION HISTORY*
C. L. Cleland

With the inclusion of the minutes of the meeting of the Rural Sociology Section of the SAAS in the present Proceedings, it was suggested that it might be appropriate to add a brief history of the development of the section. The following is based on notes made in preparation for the 1968 meeting of the section, the report edited by John E. Dunkelberger and Janice E. Vanlandingham¹ and letters written in 1967 and 1968.

For many years the rural sociologists who participated in the meetings of what was then known as the Association of Southern Agricultural Workers, met with the agricultural economists in joint sessions. These meetings were dominated by the agricultural economists with the two and one-half day meetings usually devoting one half-day session to papers by rural sociologists. Usually most of the agricultural economists went to the Marketing Section while the rural sociology papers were being presented so the intent of getting cross exposure between these two disciplines turned out to be a mostly one way exposure.

The agricultural economists had made some efforts in earlier years to organize themselves into a southern professional group with an identity all its own. These efforts finally paid off with the establishment of the Southern Agricultural Economics Association in 1968. That year was the last of the combined sessions for agricultural economics and rural sociology leaving the rural sociologists without a "home". Dan Alleger would have been chairman of the combined section for the 1969 meeting.

It was decided that each of the existing groups of rural sociologists in the South would be asked what they thought of the idea of trying to establish a Rural Sociology Section. The question had been raised at the fall 1967 meeting of the S-61 Technical Committee and the response was a pessimistic one. The question was raised again at the meeting of the Southern Rural Sociology Research Committee which took place in conjunction with the 1968 ASAW meetings. Here it simply got discussed with no action taken or specific plans made. It was raised once more at the October 1968 meeting of the S-61 Technical Committee and this time a decision was made that the possibility of establishing such a section should be actively explored.

The responsibility for determining the receptiveness of the ASAW Executive Secretary to facilitating a meeting of the rural sociologists was

¹Dunkelberger, John E. and Janice B. Vanlandingham, Editors, Reflections on the Development of Cooperative Rural Sociology Research in the South, Rural Sociology Series No. 1, Agricultural Experiment Station, Auburn, Alabama, April, 1974.

*Reprinted from Rural Sociology in the South: 1978.

given to Cleland. If he was found to be receptive at this late date in the planning cycle for the meetings, Bill Kuvlesky was to try to get a program together. Dr. Morgan was receptive to the idea and in spite of some pessimism, the effort to organize a section was pursued vigorously and a one day meeting was held. At that meeting officers were elected (Alleger, Chairman; Kuvlesky, Vice-Chairman; and Dunkelberger, Secretary) to do the normal planning required for an ongoing section. A request was made to the ASAW Board of Directors for creation of a Rural Sociology Section. This request was tentatively granted pending the expression of interest in the section at the meeting the next year.

Dunkelberger made certain the news of the section got out with the opportunities for presenting papers to those with some interest in rural sociology in the region. The original thinking was that a one-day meeting would probably serve the needs of those who would respond. Instead, the number of papers submitted required a full two and one-half days of meetings. Since that time the section has regularly required several parallel sections to accommodate all of the papers submitted. The section has obviously been serving a real need!

Following are the officers of the section since it was formed:

<u>Year</u>	<u>of meeting</u>	<u>Chairman</u>	<u>Chm. elect</u>	<u>Secretary, Program Chairman</u>	<u>Secretary, Prog. Chair- man elect</u>
1968-69	Mobile	Alleger	-----	Kuvlesky	-----
1969-70	Memphis	Alleger	Kuvlesky	Dunkel- berger	-----
1970-71	Jackson- ville	Kuvlesky	Dunkel- berger	Sollie	Voland
1971-72	Richmond	Dunkel- berger	Sollie	Voland	Boyd
1972-73	Atlanta	Sollie	Voland	Boyd	Cosby
1973-74		Voland	Boyd	Cosby	Miller
1974-75	New Orleans	Boyd	Cosby	Miller	Steelman
1975-76	Mobile	Cosby	Miller	Steelman	Mookherjee
1976-77	Atlanta	Miller	Steelman	Mookherjee	McLean
1977-78	Houston	Steelman	Mookerjee	McLean	Boykin
1978-79*	New Orleans	Mookerjee	McLean	Boykin	Frese
1979-80	Hot Springs	McLean	Boykin	Frese	Wheelock
1980-81	Atlanta	Boykin	Frese	Wheelock	Wimberley
1981-82	Orlando	Frese	Wheelock	Wimberley	Wetherill
1982-83	Atlanta	Wheelock	Wimberley	Wetherill	Ladewig

*Information for 1978-79 through 1982-83 added by current editor.